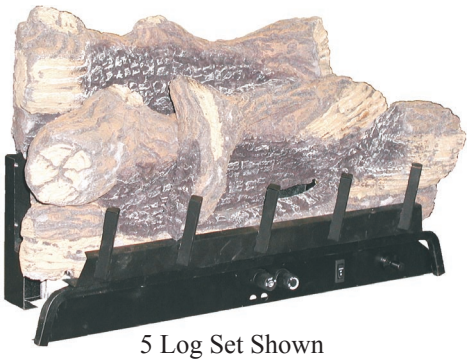
INSTALLATION INSTRUCTIONS AND OWNER'S MANUAL

Vented/Vent-Free Burner and Logs



5 Log Set Shown

UNVENTED GAS LOG HEATER OR VENTED DECORATIVE APPLIANCE

MODELS

VFDR18LB10N-1	VFDR18LB10P-1
VFDR18LBN-1	VFDR18LBP-1
VFDR24LBN-1	VFDR24LBP-1
VFDR30LBN-1	VFDR30LBP-1
VFDT18LBN-1	VFDT18LBP-1
VFDT24LBN-1	VFDT24LBP-1
VFDT30LBN-1	VFDT30LBP-1
VFDM18LBN-1	VFDM18LBP-1
VFDM24LBN-1	VFDM24LBP-1
VFDM30LBN-1	VFDM30LBP-1

Installer: Leave this manual with the appliance.
Consumer: Retain this manual for future reference.

This appliance may be installed in an aftermarket permanently located, manufactured (mobile) home, where not prohibited by local codes.

This appliance is only for use with the type of gas indicated on the rating plate. This appliance is not convertible for use with other gases.

WARNING: If the information in this manual are not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

— **Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.**

— **WHAT TO DO IF YOU SMELL GAS**
- **Do not try to light any appliance.**
- **Do not touch any electrical switch; do not use any phone in your building.**
- **Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.**
- **If you cannot reach your gas supplier, call the fire department.**

— **Installation and service must be performed by a qualified installer, service agency or the gas supplier.**

This is an unvented gas-fired heater. It uses air (oxygen) from the room in which it is installed. Provisions for adequate combustion and ventilation air must be provided. Refer to page 8.

WARNING: If not installed, operated and maintained in accordance with the manufacturer's instructions, this product could expose you to substances in fuel or from fuel combustion which can cause death or serious illness.

WATER VAPOR: A BY-PRODUCT OF UN-VENTED ROOM HEATERS

Water vapor is a by-product of gas combustion. An unvented room heater produces approximately one (1) ounce (30ml) of water for every 1,000 BTU's (.3KW's) of gas input per hour. Refer to page 6.

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IMPORTANT SAFETY INFORMATION

- **An unvented room heater having an input rating of more than 6,000 Btu per hour shall not be installed in a bathroom**
- **An unvented room heater having an input rating of more than 10,000 Btu per hour shall not be installed in a bedroom or bathroom.**
- **Never burn solid fuels in a fireplace where a gas log set is installed.**
- **Due to high temperatures, the appliance should be located out of traffic and away from furniture and draperies.**
- **Do not place clothing or other flammable material on or near the appliance.**
- **Children and adults should be alerted to the hazards of high surface temperature and should stay away to avoid burns or clothing ignition.**
- **Young children should be carefully supervised when they are in the same room as the appliance.**
- **This unit complies with ANSI Z21.11.2 Unvented Heaters and it also complies with ANSI Z21.60 Decorative Vented Appliances for Solid Fuel Burning Fireplaces. State or local codes may only allow operation of this appliance in a vented configuration. Check your state or local codes.**
- **Correct installation of logs, proper location of the heater and annual cleaning are necessary to avoid potential problems with sooting. Sooting, resulting from improper installation or operation, can settle on surfaces outside the fireplace.**
- **Avoid any drafts that could alter burner flame patterns. Do not allow fans to blow directly into the fireplace. Do not place a blower inside burn box area of firebox. Ceiling fans may create drafts that alter burner flame patterns. Sooting and improper burning will occur as a result of drafts.**
- **WARNING: Do not allow fans to blow directly into the fireplace. Avoid any drafts that alter burner flame patterns.**
- **WARNING: Do not use a blower insert, heat exchanger insert or other accessory not approved for use with this heater.**
- **Periodic examination and cleaning of the venting system of the solid-fuel burning fireplace, including frequency of such examination and cleaning, by a qualified agency.**
- **The installation must conform with local codes or, in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1/NFPA54.**
- **NOTE: Installation and repair should be done by a qualified service person. The appliance should be inspected before use and at least annually by a qualified service person. More frequent cleaning may be required due to excessive lint from carpeting, bedding material, etc. It is imperative that the control compartment, burners and circulating air passageways of the appliance be kept clean.**
- **Any safety screen or guard removed for servicing an appliance must be replaced prior to operating the appliance. Provide adequate combustion and ventilation air.**
- **The flow of combustion and ventilation air MUST NOT be obstructed.**
- **Provide adequate clearances around air openings into the combustion chamber and adequate accessibility clearance for servicing and proper operation. NEVER obstruct the front opening of the appliance.**
- **An unvented room heater intended for installation in a solid-fuel burning fireplace shall comply with the following instructions.**
- **A fireplace screen must be in place when the appliance is operating and, unless other provisions for combustion air are provided, the screen shall have an opening(s) for introduction of combustion air.**
- **Solid-fuels shall not be burned in a masonry or UL 127 factory-built fireplace in which an unvented room heater is installed.**
- **Any glass doors shall be fully opened when the appliance is in operation.**
- **Any outside air ducts and/or ash dumps in the fireplace shall be permanently closed at time of appliance installation.**
- **WARNING: Failure to keep the primary air opening(s) of the burner(s) clean may result in sooting and property damage.**
- **WARNING: Before installing in a solid-fuel burning fireplace, the chimney flue and firebox must be cleaned of soot, creosote, ashes and loose paint by a qualified chimney cleaner.**

WARNING

When used without adequate combustion and ventilation air, heater may give off CARBON MONOXIDE, an odorless, poisonous gas.

Do not install heater until all necessary provisions are made for combustion and ventilation air. Consult the written instructions provided with the heater for information concerning combustion and ventilation air. In the absence of instructions, refer to the National Fuel Gas Code, ANSI Z223.1/NFPA 54, Air for Combustion and Ventilation, or applicable local codes.

This heater is equipped with a PILOT LIGHT SAFETY SYSTEM designed to turn off the heater if not enough fresh air is available.

DO NOT TAMPER WITH PILOT LIGHT SAFETY SYSTEM!

If heater shuts off, do not relight until you provide fresh air.
If heater keeps shutting off, have it serviced. Keep burner and control compartment clean.

CARBON MONOXIDE POISONING MAY LEAD TO DEATH.

Early signs of carbon monoxide poisoning resemble the flu, with headache, dizziness and/or nausea. If you have these signs, heater may not be working properly. Get fresh air at once! Have heater serviced.

Some people – pregnant women, persons with heart or lung disease, anemia, those under the influence of alcohol, those at high altitudes – are more affected by carbon monoxide than others.

The pilot light safety system senses the depletion of oxygen at its location. If this heater is installed in a structure having a high vertical dimension, the possibility exists that the oxygen supply at the higher levels will be less than that at the heater. In this type of application, a fan to circulate the structure air will minimize this effect. The use of this fan will also improve the comfort level in the structure. When a fan is used to circulate air, it should be located so that the air flow is not directed at the burner.

SAFETY INFORMATION FOR USERS OF LP-GAS

Propane (LP-Gas) is a flammable gas which can cause fires and explosions. In its natural state, propane is odorless and colorless. You may not know all the following safety precautions which can protect both you and your family from an accident. Read them carefully now, then review them point by point with the members of your household. Someday when there may not be a minute to lose, everyone's safety will depend on knowing exactly what to do. If, after reading the following information, you feel you still need more information, please contact your gas supplier.

LP-GAS WARNING ODOR

If a gas leak happens, you should be able to smell the gas because of the odorant put in the LP-Gas. That's your signal to go into immediate action!

- Do not operate electric switches, light matches, use your phone. Do not do anything that could ignite the gas.
- Get everyone out of the building, vehicle, trailer, or area. Do that IMMEDIATELY.
- Close all gas tank or cylinder supply valves.
- LP-Gas is heavier than air and may settle in low areas such as basements. When you have reason to suspect a gas leak, keep out of basements and other low areas. Stay out until firefighters declare them to be safe.
- Use your neighbor's phone and call a trained LP-Gas service person and the fire department. Even though you may not continue to smell gas, do not turn on the gas again. Do not re-enter the building, vehicle, trailer, or area.
- **Finally**, let the service man and firefighters check for escaped gas. Have them air out the area before you return. Properly trained LP-Gas service people should repair the leak, then check and relight the gas appliance for you.

NO ODOR DETECTED - ODOR FADE

Some people cannot smell well. Some people cannot smell the odor of the chemical put into the gas. You must find out if you can smell the odorant in propane. Smoking can decrease your ability to smell. Being around an odor for a time can affect your sensitivity or ability to detect that odor. Sometimes other odors in the area mask the gas odor. People may not smell the gas odor or their minds are on something else. Thinking about smelling a gas odor can make it easier to smell.

The odorant in LP-gas is colorless, and it can fade under some circumstances. For example, if there is an underground leak, the movement of the gas through soil can filter the odorant. Odorants in LP-Gas also are subject to oxidation. This fading can occur if there is rust inside the storage tank or in iron gas pipes.

The odorant in escaped gas can adsorb or absorb onto or into walls, masonry and other materials and fabrics in a room. That will take some of the odorant out of the gas, reducing its odor intensity.

LP-Gas may stratify in a closed area, and the odor intensity could vary at different levels. Since it is heavier than air, there may be more odor at lower levels. Always be sensitive to the slightest gas odor. If you detect any odor, treat it as a serious leak. Immediately go into action as instructed earlier.

SOME POINTS TO REMEMBER

- **Learn to recognize the odor of LP-gas.** Your local LP-Gas Dealer can give you a "Scratch and Sniff" pamphlet. Use it to find out what the propane odor smells like. If you suspect that your LP-Gas has a weak or abnormal odor, call your LP-Gas Dealer.
- If you are not qualified, do not light pilot lights, perform service, or make adjustments to appliances on the LP-Gas system. If you are qualified, consciously think about the odor of LP-Gas prior to and while lighting pilot lights or performing service or making adjustments.
- Sometimes a basement or a closed-up house has a musty smell that can cover up the LP-Gas odor. Do not try to light pilot lights, perform service, or make adjustments in an area where the conditions are such that you may not detect the odor if there has been a leak of LP-Gas.
- Odor fade, due to oxidation by rust or adsorption on walls of new cylinders and tanks, is possible. Therefore, people should be particularly alert and careful when new tanks or cylinders are placed in service. Odor fade can occur in new tanks, or reinstalled old tanks, if they are filled and allowed to set too long before refilling. Cylinders and tanks which have been out of service for a time may develop internal rust which will cause odor fade. If such conditions are suspected to exist, a periodic sniff test of the gas is advisable. **If you have any question about the gas odor, call your LP-gas dealer. A periodic sniff test of the LP-gas is a good safety measure under any condition.**
- If, at any time, you do not smell the LP-Gas odorant and you think you should, assume you have a leak. Then take the same immediate action recommended above for the occasion when you do detect the odorized LP-Gas.
- If you experience a complete "gas out," (the container is under no vapor pressure), turn the tank valve off immediately. If the container valve is left on, the container may draw in some air through openings such as pilot light orifices. If this occurs, some new internal rusting could occur. If the valve is left open, then treat the container as a new tank. Always be sure your container is under vapor pressure by turning it off at the container before it goes completely empty or having it refilled before it is completely empty.

INTRODUCTION

IMPORTANT: Read all instructions carefully before starting installation. Failure to follow these installation instructions may result in a possible fire hazard and will void the warranty.

Save this manual for future reference.

Please read this manual before installing and using the appliance.

Instructions to Installer

1. Installer must leave instruction manual with owner after installation.
2. Installer must have owner fill out and mail warranty card supplied with unvented room heater/vented decorative appliance.
3. Installer should show owner how to start and operate unvented room heater/vented decorative appliance.

Always consult your local Building Department regarding regulations, codes or ordinances which apply to the installation of an unvented room heater/vented decorative appliance.

This appliance may be installed in an aftermarket* manufactured (mobile) home, where not prohibited by state or local codes.

*Aftermarket: Completion of sale, not for purpose of resale, from the manufacturer.

This appliance is only for use with the type of gas indicated on the rating plate. This appliance is not convertible for use with other gases.

Solid-fuels shall not be burned in a fireplace where a vented decorative appliance is installed.

A vented decorative appliance must be installed only in a solid-fuel burning fireplace with a working flue and constructed of non-combustible material.

Any alteration of the original design, installed other than as shown in these instructions or use with a type of gas not shown on the rating plate is the responsibility of the person and company making the change.

Important

All correspondence should refer to complete Model Number, Serial Number and type of gas.

Attention: During initial use of log you will detect an odor as the log is cured.

Notice: During initial firing of this unit, its paint will bake out, and smoke will occur. To prevent triggering of smoke alarms, ventilate the room in which the unit is installed.

WARNING: This appliance is for installation only in a solid-fuel burning masonry or UL 127 factory-built fireplace or in a listed ventless firebox enclosure. It has been design certified for these installations. Exception: DO NOT install this appliance in a factory-built fireplace that includes instructions stating it has not been tested or should not be used with unvented gas logs.

WARNING: Any modification to this unvented gas heater or its controls can be dangerous. Improper installation or use of the heater can cause serious injury or death from fire, burns, explosion or carbon monoxide poisoning.

Well Head Gas Installations

Some natural gas utilities use "well head" gas. This may affect the Btu output of the unit. Contact the gas company for the heating value. Contact the manufacturer or your gas company before changing spud/orifice size.

ACCESSORIES for VFDR, VFDT, & VFDM

	Description	Color
EK-1	Embers Kit	
PE-20	Platinum Embers	
ELH-1	Fireplace Hood for Vent-Free Logs	Black
ELH-2	Fireplace Hood for Vent-Free Logs	Brass

ACCESSORIES for VFDR ONLY

FRBC	Battery Operated Remote Control
FRBTC	Battery Operated Remote Control with Thermostat
FREC	Electric Remote Control
FWS	Wall Switch
TRW	Remote Wall Thermostat
TMV	Wall Thermostat, Millivolt - Reed Switch

PRODUCT SPECIFICATIONS

Model	Gas	Valve Type	Regulator Pressure Setting	Gas Inlet Pressure Max	Gas Inlet Pressure Minimum
VFDR(18,24,30)LB	Natural	Millivolt	3.5" W.C.	10.5" W.C.	4.5" W.C.
	Propane		10.0" W.C.	13.0" W.C.	11.0" W.C.
VFDR18LB10	Natural	Millivolt	3.5" W.C.	10.5" W.C.	5.0" W.C.
	Propane		10.0" W.C.	13.0" W.C.	11.0" W.C.
VFDT(18,24,30)LB	Natural	Thermostat	6.0" W.C.	10.5" W.C.	7.0" W.C.
	Propane		10.0" W.C.	13.0" W.C.	11.0" W.C.
VFDM(18,24,30)LB	Natural	Manual	6.0" W.C.	10.5" W.C.	7.0" W.C.
	Propane		10.0" W.C.	13.0" W.C.	11.0" W.C.

Model	BTU/hr. Max. Rate	BTU/hr. Med. Rate	BTU/hr. Min. Rate
VFDR18LB10N	10,000	N/A	N/A
VFDR18LB10P	10,000	N/A	N/A
VFDR18LBN	28,000	N/A	19,000
VFDR18LBP	28,000	N/A	22,000
VFDR24LBN	34,000	N/A	24,000
VFDR24LBP	34,000	N/A	26,000
VFDR30LBN	40,000	N/A	27,000
VFDR30LBP	40,000	N/A	31,000
VFDT18LBN	28,000	N/A	19,000
VFDT18LBP	28,000	N/A	22,000
VFDT24LBN	34,000	N/A	24,000
VFDT24LBP	34,000	N/A	26,000
VFDT30LBN	40,000	N/A	27,000
VFDT30LBP	40,000	N/A	31,000
VFDM18LBN	28,000	23,000	19,000
VFDM18LBP	28,000	25,000	22,000
VFDM24LBN	34,000	29,000	24,000
VFDM24LBP	34,000	30,000	26,000
VFDM30LBN	40,000	32,000	27,000
VFDM30LBP	40,000	36,000	31,000

WATER VAPOR: A BY-PRODUCT OF UNVENTED ROOM HEATERS

Water vapor is a by-product of gas combustion. An unvented room heater produces approximately one (1) ounce (30ml) of water for every 1,000 BTU's (.3KW's) of gas input per hour.

Unvented room heaters must be used as supplemental heat (a room) rather than a primary heat source (an entire house). In most supplemental heat applications, the water vapor does not create a problem. In most applications, the water vapor enhances the low humidity atmosphere experienced during cold weather.

The following steps will help insure that water vapor does not become a problem.

1. Be sure the heater is sized properly for the application, including ample combustion air and circulation air.
2. If high humidity is experienced, a dehumidifier may be used to help lower the water vapor content of the air.
3. Do not use an unvented room heater as the primary heat source (an entire house).

GENERAL INFORMATION

This is an unvented gas-fired heater. It uses air (oxygen) from the room in which it is installed. Provisions for adequate combustion and ventilation air must be provided.

Keep room area clear and free from combustible materials, gasoline and other flammable vapors and liquids.

Unvented gas heaters are a supplemental zone heater. They are not intended to be a primary heating appliance. Water vapor produced by an unvented heater can create moisture problems in a home when operated for extended periods of time.

During manufacturing, fabricating and shipping, various components of this appliance are treated with certain oils, films or bonding agents. These chemicals are not harmful but may produce annoying smoke and smells as they are burned off during the initial operation of the appliance; possibly causing headaches or eye or lung irritation. This is a normal and temporary occurrence.

The initial break-in operation should last 2-3 hours with the burner at the highest setting. Provide maximum ventilation by opening windows or doors to allow odors to dissipate. Any odors remaining after this initial break-in period will be slight and will disappear with continued use.

This appliance must not be used with glass doors in the closed position. This can lead to pilot outages and severe sooting outside the fireplace.

Do not use this room heater if any part has been under water. Immediately call a qualified service technician to inspect the room heater and replace any part of the control system and any gas control which has been under water.

WARNING: This appliance is equipped for (natural or propane) gas. Field conversion is not permitted.

Before you get started

Carefully inspect the contents for shipping damage. If any parts are missing or damaged, immediately inform the dealer from whom you purchased the appliance. Do not attempt to install any part of the appliance unless you have all parts in good condition.

Make sure you have received all parts:

Check your packing list to verify that all listed parts have been received. You should have the following:

- Gas log grate/burner assembly.
- Two (2) masonry anchoring screws and two (2) 10 x 1/2" black sheet metal anchoring screws.
- Ceramic Log Set - (5 Piece on VFDR(18,24), VFDT(18,24) and VFDM(18,24)) (7 Piece on VFDR30, VFDT30 and VFDM30)
- Plastic bag containing glowing embers (rock wool) for burner coverage.

The millivolt controlled heater may be operated with optional devices for REMOTE/OFF/ON functions.

a. Wall switch or thermostat with wire.
b. Hand held remote control with ON/OFF switch or thermostat.

Handle the gas log burner assembly by the grate and legs only. Do not pick the unit up by the burner.

Gloves are recommended when handling logs to prevent skin irritation. Logs are fragile - Handle with care.

Qualified Installing Agency

Installation and replacement of gas piping, gas utilization equipment or accessories and repair and servicing of equipment shall be performed only by a qualified agency. The term "qualified agency" means any individual, firm, corporation, or company that either in person or through a representative is engaged in and is responsible for (a) the installation, testing, or replacement of gas piping or (b) the connection, installation, testing, repair, or servicing of equipment; that is experienced in such work; that is familiar with all precautions required, and that has complied with all the requirements of the authority having jurisdiction.

State of Massachusetts: The installation must be made by a licensed plumber or gas fitter in the Commonwealth of Massachusetts.

Sellers of unvented propane or natural gas-fired supplemental room heaters shall provide to each purchaser a copy of 527 CMR-30 upon sale of the unit.

In the State of Massachusetts, unvented propane and natural gas-fired space heaters shall be prohibited in bedrooms and bathrooms.

The installation must conform with local codes or, in the absence of local codes, with the *National Fuel Gas Code, ANSI Z223.1.**

**Available from the American National Standards Institute, Inc. 11 West 42nd St., New York, N.Y. 10018.*

High Altitude

When installing this unit at an elevation above 2,000 feet (in the United States), it may be necessary to decrease the input rating by changing the existing burner orifice to a smaller size. Generally, input should be reduced 4 percent for each 1,000 feet above sea level. However, if the heating value of the gas has been reduced, this general rule may not apply. Check with local gas utility for proper orifice size identification.

PROVISIONS FOR ADEQUATE COMBUSTION & VENTILATION AIR

This heater shall not be installed in a confined space unless provisions are provided for adequate combustion and ventilation air.

The National Fuel Gas Code defines a confined space as a space whose volume is less than 50 cubic feet per 1,000 Btu per hour (4.8m^3 per kw) of the aggregate input rating of all appliances installed in that space and an unconfined space as a space whose volume is not less than 50 cubic feet per 1,000 Btu per hour (4.8 m^3 per kw) of the aggregate input rating of all appliances installed in that space. Rooms communicating directly with the space in which the appliances are installed, through openings not furnished with doors, are considered a part of the unconfined space.

Unusually Tight Construction

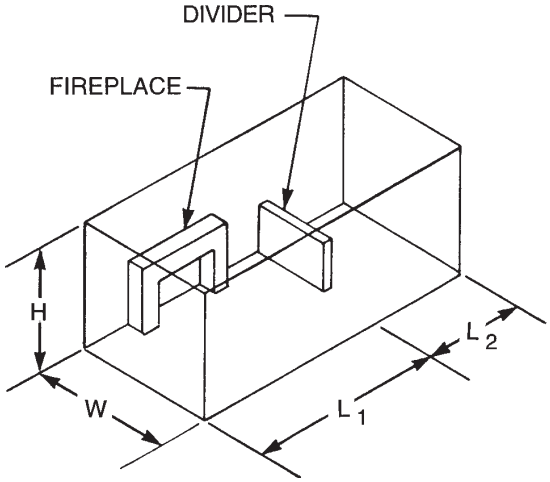
The air that leaks around doors and windows may provide enough fresh air for combustion and ventilation. However, in buildings of unusually tight construction, you must provide additional fresh air.

Unusually tight construction is defined as construction where:

a. Walls and ceilings exposed to the outside atmosphere have a continuous water vapor retarder with a rating of one perm or less with openings gasketed or sealed, and
b. Weather-stripping has been added on openable windows and doors, and
c. Caulking or sealants are applied to areas such as joints around window and door frames, between sole plates and floors, between wall-ceiling joints, between wall panels, at penetrations for plumbing, electrical, and gas lines, and at other openings.

If your home meets all of the three criteria above, you must provide additional fresh air.

Warning: If the area in which the heater may be operated is smaller than that defined as an unconfined space or if the building is of unusually tight construction, provide adequate combustion and ventilation air by one of the methods described in the National Fuel Gas Code, ANSI Z223.1/NFPA 54, Air for Combustion and Ventilation, or applicable local codes.



Example of Large Room with 1/2 Wall divider.

Figure 1

The following formula can be used to determine the maximum heater rating per the definition of unconfined space:

$$\text{Btu/Hr} = \frac{(L_1 + L_2)\text{FT} \times (W)\text{FT} \times (H)\text{FT}}{50} \times 1000$$

If the area in which the heater may be operated is smaller than that defined as an unconfined space, provide adequate combustion and ventilation air by one of the methods described in the *National Fuel Gas Code, ANSI Z223.1/NFPA54.*

Adhere to all codes, or in their absence, the latest edition of *THE NATIONAL FUEL GAS CODE ANSI Z223.1/NFPA54* which can be obtained from:

American National Standards Institute
11 West 42nd St.
New York, NY 10018
OR
National Fire Protection Association, Inc.
Batterymarch Park
Quincy, MA 02269

CLEARANCES

Minimum Dimensions For Solid Fuel Burning Fireplaces UL127 Factory Built Fireplaces (Figure 2)

Model	A	B	C	D
VFDR18LB10	17"	12"	28"	17"
VFD(R,T,M)18	17"	12"	28"	17"
VFD(R,T,M)24	23"	12"	30"	18"
VFD(R,T,M)30	26"	12"	34"	20"

The dimensions shown and defined in the fireplace manufacturer's instructions are minimum clearances to maintain in installing this heater. Left and right clearances are determined when facing the front of the heater.

Glass Doors

Make sure that glass doors are open during all operations of the logset. The opening of the glass door frame should be the dimension used for the minimum front opening of the firebox.

Follow these instructions to ensure safe installation.

Failure to follow instructions exactly can create a fire hazard.

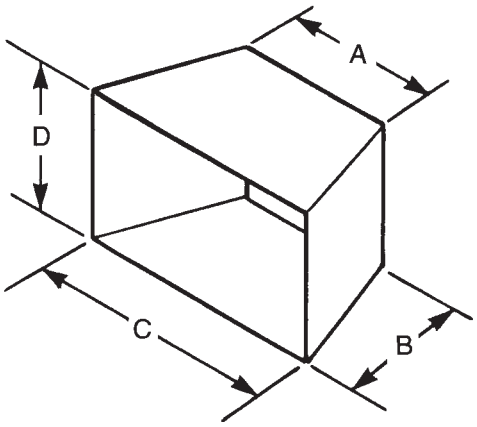


Figure 2

CLEARANCES (continued)

Sidewall & Ceiling Clearances (Figure 3)

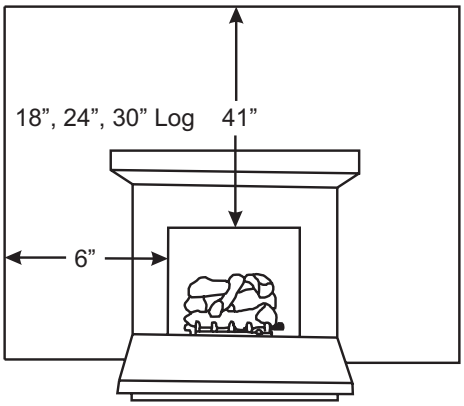


Figure 3

The sides of the fireplace opening must be 6" from any combustible wall. The ceiling must be at least 41" (for 18", 24" and 30" logs) from the fireplace opening.

Mantel Clearances Without Hood (Figure 4)

You must have non-combustible materials above the fireplace opening. Non-combustible material must extend at least 12" above fireplace opening. With sheet metal, you must have non-combustible material behind it.

Heat resistant materials such as slate and marble must be **at least 1/2" thick. Sheet metal should not be installed onto combustible material.**

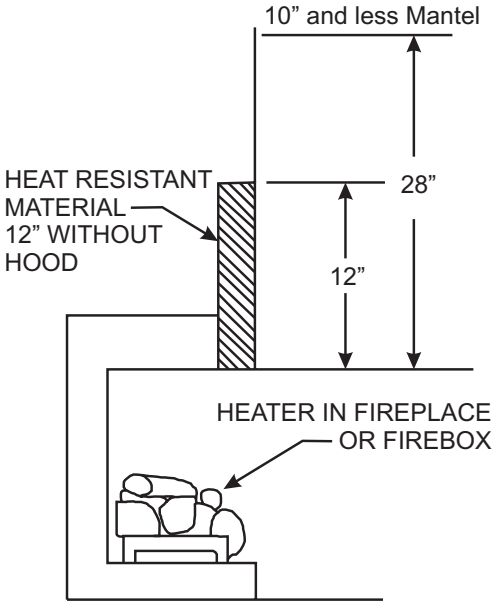


Figure 4

If your installation does not meet the above clearances, you must proceed to one of the following steps:

- Use a hood.
- Operate the heater with flue damper open. See page 11 for **Installing as a Vented Appliance.**
- Raise the mantel to the proper height.
- Remove the mantel.

Non-Combustible Material Distance	Requirements for Safe Installation
12" or more	Non-combustible material
Less than 12"	Non-combustible material must be extended to at least 8" with the installation of the optional fireplace hood. If you cannot extend non-combustible material at least 8", you must operate heater with flue damper open.

Mantel Clearances with Hood (Figure 5)

You must have non-combustible materials above the fireplace opening. Non-combustible material must extend at least 8" above fireplace opening. With sheet metal, you must have non-combustible material behind it.

Heat resistant materials such as slate and marble must be at least 1/2" thick. Sheet metal should not be installed onto combustible material.

Example: A mantel may project from the wall a maximum of 2" at a minimum of 13-1/2" above the opening, and a maximum of 6" at a minimum of 15" above the opening.

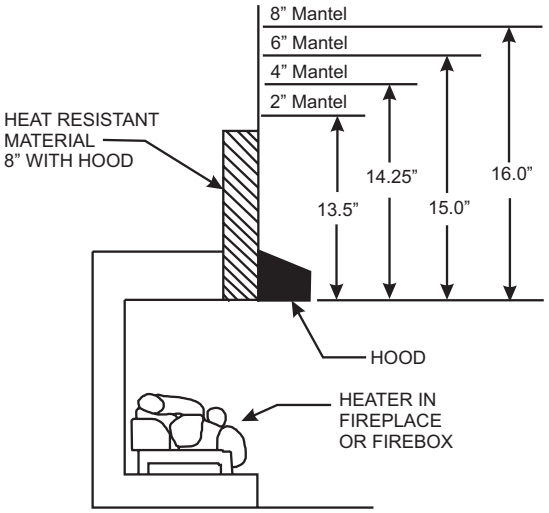


Figure 5

If your installation does not meet the above minimum clearances, you must proceed to one of the following steps:

- Operate the heater with the flue damper open. See page 11 for **Installing as a Vented Appliance.**
- Raise the mantel to the proper height.
- Remove the mantel.

Floor Clearance (Figure 6)

If installing heater at floor level, the minimum distance to combustibles is “0” inches.

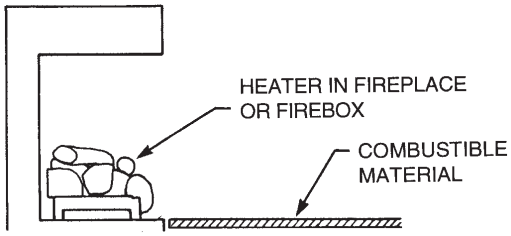


Figure 6

COMBUSTIBLE MATERIAL

Do not attach combustible material to the mantel of your fireplace. This is a fire hazard.

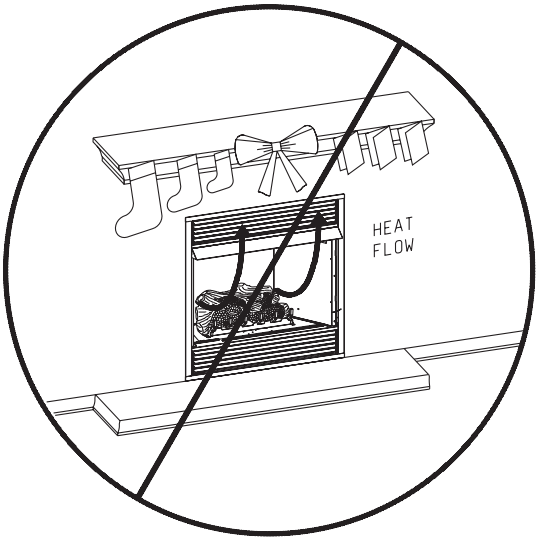


Figure 7

No greeting card, stockings or ornamentation of any type should be placed on or attached to the fireplace. This is a heating appliance. The flow of heat can ignite combustibles.

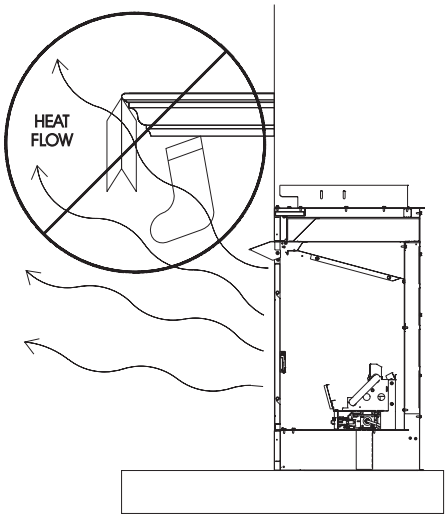


Figure 8

FIREPLACE PREPARATION

- Turn off gas supply to fireplace or firebox.
- Have the fireplace floor and chimney professionally cleaned to remove ashes, soot, creosote or other obstructions. Have this cleaning performed annually after installation.
- Seal any fresh air vents or ash clean-out doors located on floor or wall of fireplace. If not, drafting may cause pilot outage or sooting. Use a heat-resistant sealant. Do not seal chimney flue damper.

Install and operate the appliance as directed in this manual.

FOR FACTORY BUILT FIREPLACES

FREE OPENING AREA OF CHIMNEY DAMPER FOR VENTING COMBUSTION PRODUCTS FROM DECORATIVE APPLIANCES FOR INSTALLATION IN SOLID FUEL BURNING FIREPLACES

	Appliance Input Rate (BTU/hr)		
	20	30	40
Chimney Height* (ft)	**Minimum Opening** (sq. in.)**		
10	11.3	16.6	22.1
15	8.6	12.6	17.3
20	7.5	10.8	14.5
25	6.6	9.6	12.6
30	6.2	9.1	11.3
35	5.7	8.0	10.8
40	5.3	7.5	10.2

* Height is from hearth to top of chimney and the minimum height is 10 feet.

** Chart shows minimum opening (sq. in.) for given height and input rate.

FOR MASONRY BUILT FIREPLACES

FREE OPENING AREA OF CHIMNEY DAMPER FOR VENTING COMBUSTION PRODUCTS FROM DECORATIVE APPLIANCES FOR INSTALLATION IN SOLID FUEL BURNING FIREPLACES

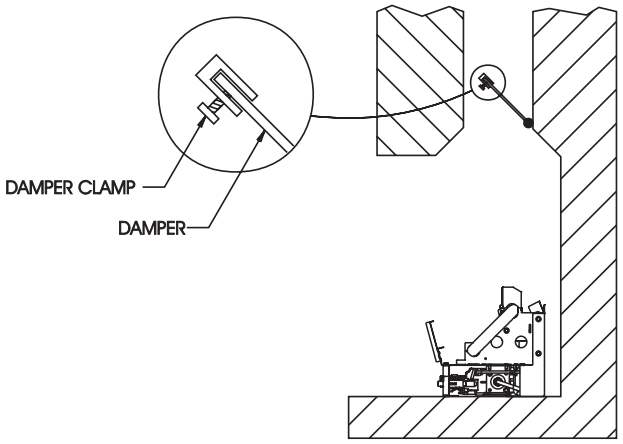
	Appliance Input Rate (BTU/hr)		
	20	30	40
Chimney Height* (ft)	**Minimum Opening** (sq. in.)**		
6	17.6	25.7	33.8
8	16.5	23.7	31.2
10	15.1	21.7	28.7
15	14.1	19.9	26.1
20	12.9	18.5	23.7
30	12.2	16.9	21.6

* Height is from hearth to top of chimney and the minimum height is 6 feet.

** Chart shows minimum opening (sq. in.) for given height and input rate.

INSTALLING AS A VENTED APPLIANCE

Notice (Damper Clamp Installation)
When installing your log set as a vented installation the damper clamp must be used.



TYPICAL FIREPLACE

Figure 9

When installing your log set as a vent-free installation the damper clamp can be used to eliminate the potential for odors when burning the logs for the first time.

Installing Damper Clamp (Figure 9)
Remove all ashes or other debris from the fireplace. If the fireplace is equipped with an ash dump be sure to seal the door with furnace cement or high temperature silicone. Be sure to check the damper for proper operation and verify that the flue passageway is open.

Place the clamp over the lip of the damper and tighten the hold down bolt until the clamp is securely attached to the damper. This will prevent the damper from accidentally closing.

Manual and millivolt controlled gas logs may be installed as a vented decorative log set in compliance with ANSI Z21.60 and National Fuel Gas Code. When the gas logs are operated with the damper open, non-combustible material and minimum mantel requirements do not apply.

BEFORE FULLY INSTALLING THE APPLIANCE

- Turn off the gas supply to the fireplace or firebox.
- Seal any fresh air vents and/or ash clean-out doors located on the floor or wall of the fireplace. If left unsealed, drafting may cause pilot outage or sooting. Use a heat resistant sealant. Do not seal the chimney flue damper.

Before installing in a solid fuel burning fireplace, the chimney flue and firebox must be cleaned of soot, creosote, ashes and loose paint by a qualified chimney cleaner.

You must secure the gas log heater to the fireplace floor. If not, the entire unit may move when you adjust the controls. Movement of unit may cause shifting of the gas logs which leads to sooting and improper burning. Grate movement could cause a gas leak.

Special care is required if you are installing the unit into a sunken fireplace. You must raise the fireplace floor to allow access to gas log controls. This will insure adequate air flow and guard against sooting. Raise the fireplace floor using noncombustible materials.

Assembly Procedure: (Figure 10)
1. Center the gas log unit in the fireplace or firebox. Make certain the front feet of the grate sit inside the front edge of the fireplace or firebox.
2. An anchor hole is provided in the two bottom side members of the grate frame. After centering the grate correctly, mark the hole positions on the fireplace/firebox floor. Drill two (2) 5/32" diameter holes approximately 1-1/2" deep for masonry screws or 1/8" hole for sheet metal screws.
3. Anchor the grate to the fireplace/firebox floor using the screws provided. Refer to Figure 10.

Proper installation of the grate is essential to prevent any movement of the gas logs and controls during operation.

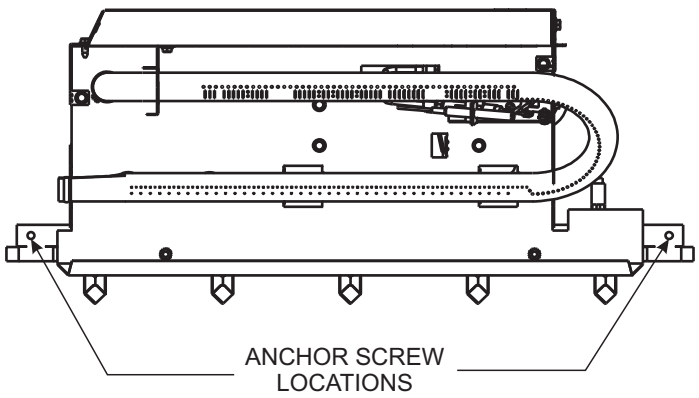


Figure 10

GAS SUPPLY

Check all local codes for requirements, especially for the size and type of gas supply line required.

Recommended Gas Pipe Diameter

Pipe Length	Schedule 40 Pipe Inside Diameter		Tubing, Type L Outside Diameter	
	Nat.	L.P.	Nat.	L.P.
0-10 feet 0-3 meters	1/2” 12.7mm	3/8” 9.5mm	1/2” 12.7mm	3/8” 9.5mm
10-40 feet 4-12 meters	1/2” 12.7mm	1/2” 12.7mm	5/8” 15.9mm	1/2” 12.7mm
40-100 feet 13-30 meters	1/2” 12.7mm	1/2” 12.7mm	3/4” 19mm	1/2” 12.7mm
100-150 feet 31-46 meters	3/4” 19mm	1/2” 12.7mm	7/8” 22.2mm	3/4” 19mm

Note: Never use plastic pipe. Check to confirm whether your local codes allow copper tubing or galvanized.

Note: Since some municipalities have additional local codes, it is always best to consult your local authority and installation code.

Installing a New Main Gas Cock

Each appliance should have its own manual gas cock.

A manual main gas cock should be located in the vicinity of the unit. Where none exists, or where its size or location is not adequate, contact your local authorized installer for installation or relocation.

Compounds used on threaded joints of gas piping shall be resistant to the action of liquefied petroleum gases. The gas lines must be checked for leaks by the installer. This should be done with a soap solution watching for bubbles on all exposed connections, and if unexposed, a pressure test should be made.

Never use an exposed flame to check for leaks. Appliance must be disconnected from piping at inlet of control valve and pipe capped or plugged for pressure test. Never pressure test with appliance connected; control valve will sustain damage!

A gas valve and ground joint union should be installed in the gas line upstream of the gas control to aid in servicing. It is required by the National Fuel Gas Code that a drip line be installed near the gas inlet. This should consist of a vertical length of pipe tee connected into the gas line that is capped on the bottom in which condensation and foreign particles may collect.

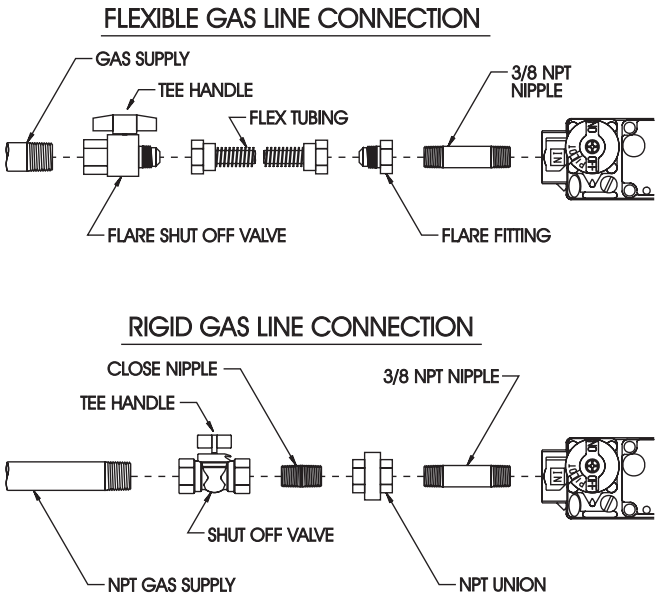


Figure 11

The use of the following gas connectors is recommended:

— ANS Z21.24 Appliance Connectors of Corrugated Metal Tubing and Fittings

— ANS Z21.45 Assembled Flexible Appliance Connectors of Other Than All-Metal Construction

The above connectors may be used if acceptable by the authority having jurisdiction. The state of Massachusetts requires that a flexible appliance connector cannot exceed three feet in length.

Pressure Testing of the Gas Supply System

1. To check the inlet pressure to the gas valve, a 1/8" (3.175mm) N.P.T. plugged tapping, accessible for test gauge connection, must be placed immediately upstream of the gas supply connection to the appliance.
2. The appliance and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psig (3.5 kPa).
3. The appliance must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 psig (3.5 kPa).

Caution: If the gas pressure exceeds the maximum limits listed on page 6 of this manual or on the installed gas valve, it will result in a hazardous condition.

VFD(R,T,M)(18,24) & VFDR18LB10 LOG PLACEMENT (5 LOG SET)

Before you begin: if you are installing logs onto the VFD(R,T,M)18 or VFD(R,T,M)24 models, this burner assembly is supplied with a set of five ceramic fiber logs. Do not handle these logs with your bare hands! Always wear gloves to prevent skin irritation from ceramic fibers. After handling logs, wash your hands gently with soap and water to remove any traces of fibers.

The positioning of the logs is critical to the safe and clean operation of this burner assembly. Sooting and other problems may result if the logs are not properly and firmly positioned on the burner assembly. Refer to **Figure 12** and **Figure 13** and corresponding **WARNING:** when completing following log placement instructions.

1. Place front logs (#1 and #2) between front grate flange and main burner. Align notches on front logs with locator tabs in base.
2. Place middle log (#3) between front and rear loop of burner. Note: Do not place log on top of pilot assembly.
3. Place rear log (#4) on rear log shelf. Bottom flange of log must be placed between the log shelf and burner tube.
4. **This step is optional for VFDR18LB10 log sets.** Place front twig (#5) onto (#1) log and flat area on (#3) log. The bottom of the front twig is to be placed behind the grate tang that is second from the left.

EMBER MATERIAL PLACEMENT ON BURNER

5. After all logs are positioned properly, apply Rockwool ember material to the front burner port area. To apply, carefully separate the ember material into small amounts no larger than "dime size" pieces. Fluffed up pieces one layer thick on top of the burner generally works best, and will provide the best ember glow. Do not place ember material more than one layer thick. No more than (2) two small packets of ember material (part no. 15998) evenly placed on the burner, is recommended on VFDR18 and VFDR24 models. Using additional ember material will decrease the amount of ember glow effect. Extra ember material should be saved for future ember applications as necessary. **See Figure 13.**

Description	Part #
VFD(R,T,M)18 Embers	15998
VFD(R,T,M)24 Embers	15998
VFD(R,T,M)30 Embers	15999
Platinum Bright Embers	PE20-1

Note: A single layer of embers is to be used when applying Platinum Bright Embers (alone or in combination with stndard embers) to the burner.

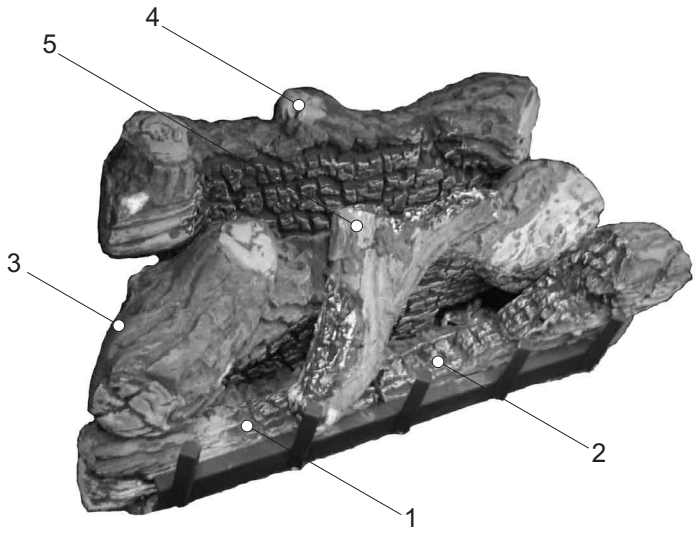


Figure 12

WARNING: Failure to position the parts in accordance with this diagram or failure to use only parts specifically approved with this appliance may result in property damage or personal injury.

Attention: Do not use Figure 12 or Figure 13 to order logs. Refer to Parts Lists and Parts Views to order logs and/or ember material for your appropriate model.

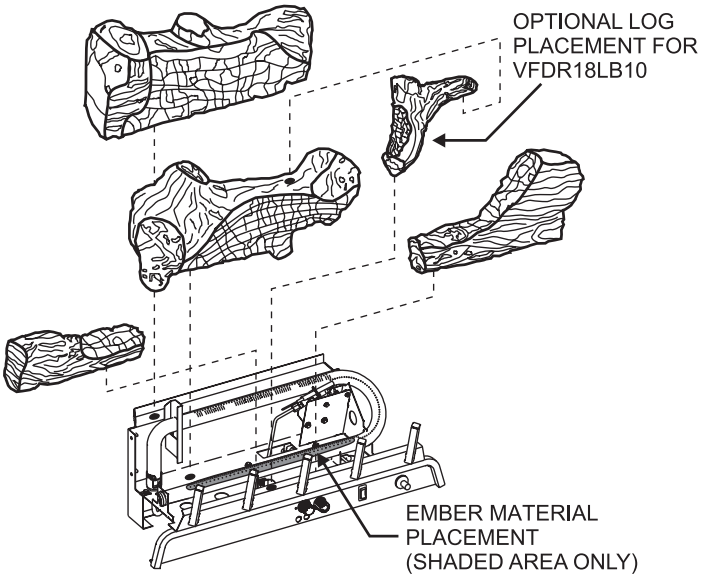


Figure 13

VFD(R,T,M)30 LOG PLACEMENT (7 LOG SET)

Before you begin: If you are installing logs onto the VFD(R,T,M)30 model, this burner assembly place is supplied with a set of seven ceramic fiber logs. Do not handle these logs with your bare hands. Always wear gloves to prevent skin irritation from ceramic fibers. After handling logs, wash your hands gently with soap and water to remove any traces of fiber.

The positioning of logs is critical to safe and clean operation of this burner assembly. Sooting and other problems may result if the logs are not properly and firmly positioned on the burner assembly. Refer to **Figure 14** and **Figure 15** and corresponding **WARNING:** when completing following log placement steps.

1. Place front logs (#1, #2, and #3) between grates and main burner. Align notches on front logs with locator tabs in base.
2. Place middle log (#4) between front and rear loop of burner. Note: Do not place on top of pilot assembly.
3. Place rear log (#5) on rear log shelf. Bottom flange is to be placed between the log shelf and burner tube.
4. Place front twig (#6) onto flat areas of middle log (#4) and bottom end of front twig to the back side of the grate tang (4th one from the left).
5. Place the rear twig (#7) onto flat area of rear log (#5) and over the front of the front twig.

Ember Material Placement on Burner

6. After all logs are properly positioned, place small "dime" size pieces of Rockwool lightly across the front burner tube ports. Place the ember material (Rockwool pieces) side by side. Do not stack more than one layer of embers across the burner ports. No more than (1) one packet of ember material (part number 15999) evenly placed on the burner, is recommended on VFDR30 models. **See Figure 15.**

Description	Part #
VFD(R,T,M)18 Embers	15998
VFD(R,T,M)24 Embers	15998
VFD(R,T,M)30 Embers	15999
Platinum Bright Embers	PE20-1

Note: A single layer of embers is to be used when applying Platinum Bright Embers (alone or in combination with stndard embers) to the burner.

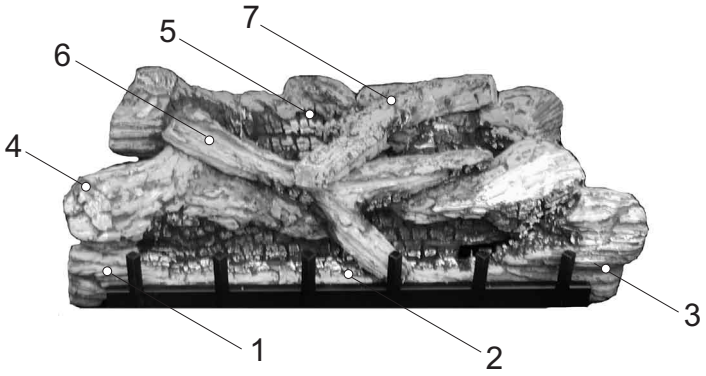


Figure 14

Warning: Failure to position the parts in accordance with this diagram or failure to use only parts specifically approved with this appliance may result in property damage or personal injury.

Attention: Do not use Figure 14 or Figure 15 to order logs. Refer to Parts Lists and Parts Views to order logs and/or ember material.

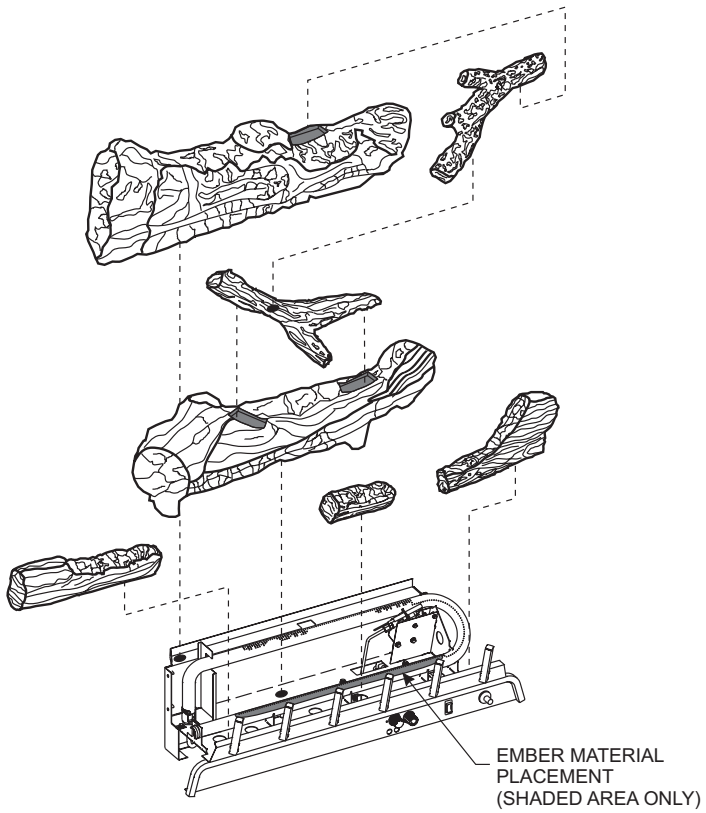


Figure 15

OPERATION INSTRUCTIONS/FLAME APPEARANCE

Flames from the pilot (rear right back side of the pan burner) as well as the main flame should be visually checked as the log set is installed.

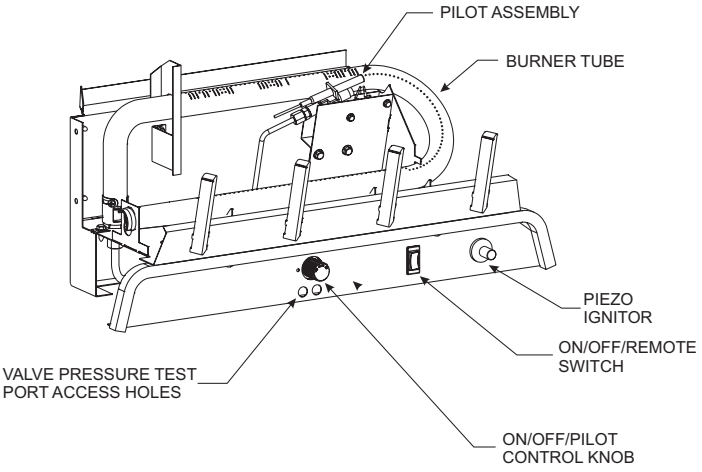
In normal operation at full rate, the flame appearance should be sets of yellow flames above the rear burner section, and shorter blue flames with glowing embers on the front burner section.

NOTE: all flames will be random by design, flame height will go up and down.

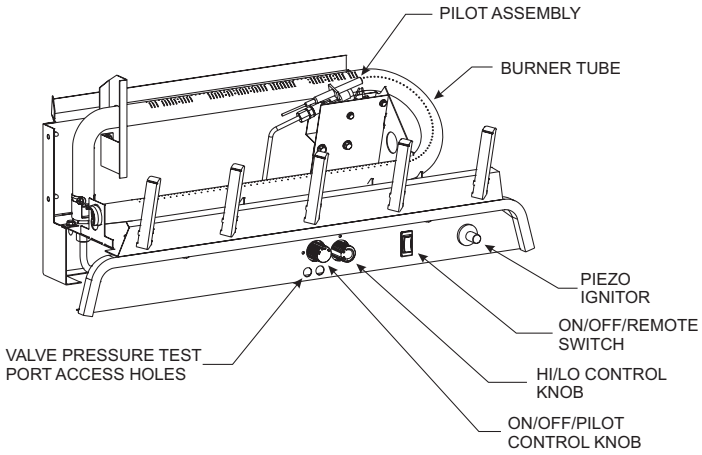
Avoid any drafts that alter burner flame patterns. Do not allow fans to blow directly into fireplace. Do not place a blower inside the burner area of the firebox. Ceiling fans may create drafts that alter flame patterns. Sooting and improper burning will result.

During manufacturing, fabricating and shipping, various components of this appliance are treated with certain oils, films or bonding agents. These chemicals are not harmful, but may produce annoying smoke and smells as they are burned off during the initial operation of the appliance, possibly causing headaches or eye or lung irritation. This is a normal and temporary occurrence.

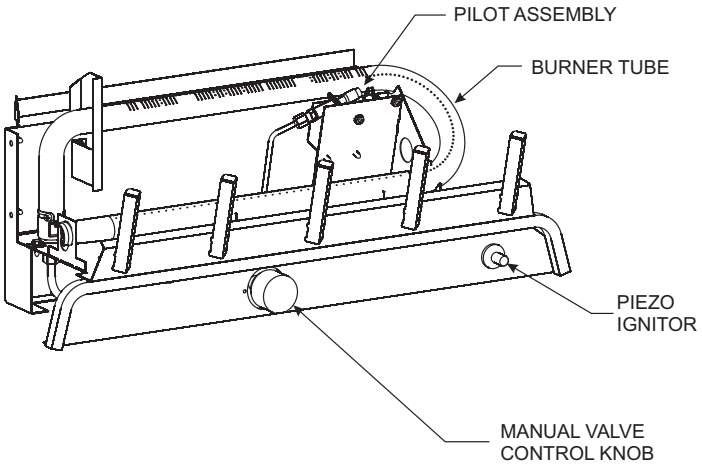
The initial break-in operation should last 2-3 hours with the burner at the highest setting. Provide maximum ventilation by opening windows or doors to allow odors to dissipate. Any odors remaining after this initial break-in will be slight and will disappear with continued use.



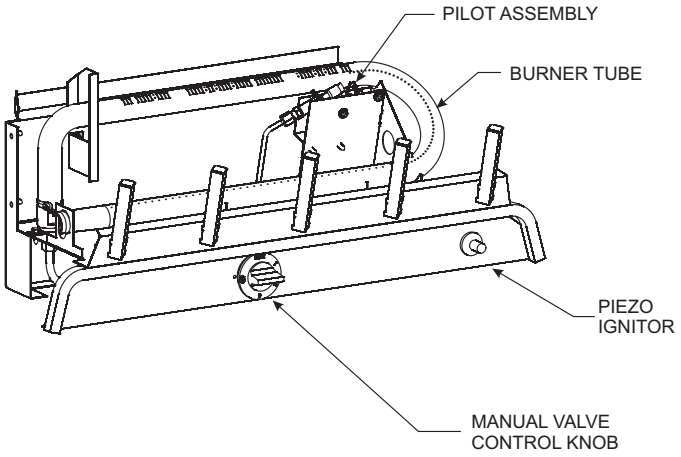
Millivolt Valve for VFDR18LB10 Series
Figure 16



Millivolt Valve for VFDR Series
Figure 17



Thermostat Valve for VFDT Series
Figure 18



Manual Valve for VFDM Series
Figure 19

WIRING - VFDR MODELS ONLY

Thermostats are not approved on vented decorative appliances.

Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation. Verify proper operation after servicing.

18", 24" and 30" Gas Logs (Millivolt) thermopile is self powered gas valve and does not require 110 volts. See Figure to provide optional wall switch, thermostat, or remote control. Maximum length of 20 feet of 16 AWG to conductor wires is to be used with all optional switches.

Check System Operation

Millivolt system and all individual components may be checked with a millivolt meter 0-1000 MV range.

Remote Receiver

Use the following steps to place the **remote receiver** adjacent to the gas valve.

Attention:

1. The remote receiver **can not** be placed behind the gas valve and burner assembly.
2. When facing the appliance, the remote receiver must be placed to the **right** of the gas valve and burner assembly.

Note: Do not let remote control receiver come in contact with burner assembly.

On circulating vent-free firebox, install remote control receiver behind bottom louver.

Refer to remote control installation and operating instructions for more details on remote control.

750 Millivolt System

When you ignite the pilot, the thermocouple produces millivolts (electrical current) which energizes the magnet in the gas valve. After 30 seconds to 1 minute time period you can release the gas control knob and the pilot will stay ON. Allow your pilot flame to operate an additional one (1) to two (2) minutes before you turn the gas control knob from the PILOT position to the ON position. This time period allows the millivolts (electrical current) to buildup to a sufficient level allowing the gas control to operate properly.

Millivolt Control

The valve regulator controls the burner pressure which should be checked at the pressure test point. Turn captured screw counter clockwise 2 or 3 turns and then place tubing to pressure gauge over test point (Use test point "A" closest to control knob). After taking pressure reading, be sure and turn captured screw clockwise firmly to re-seal. Do not over torque. Check for gas leaks.

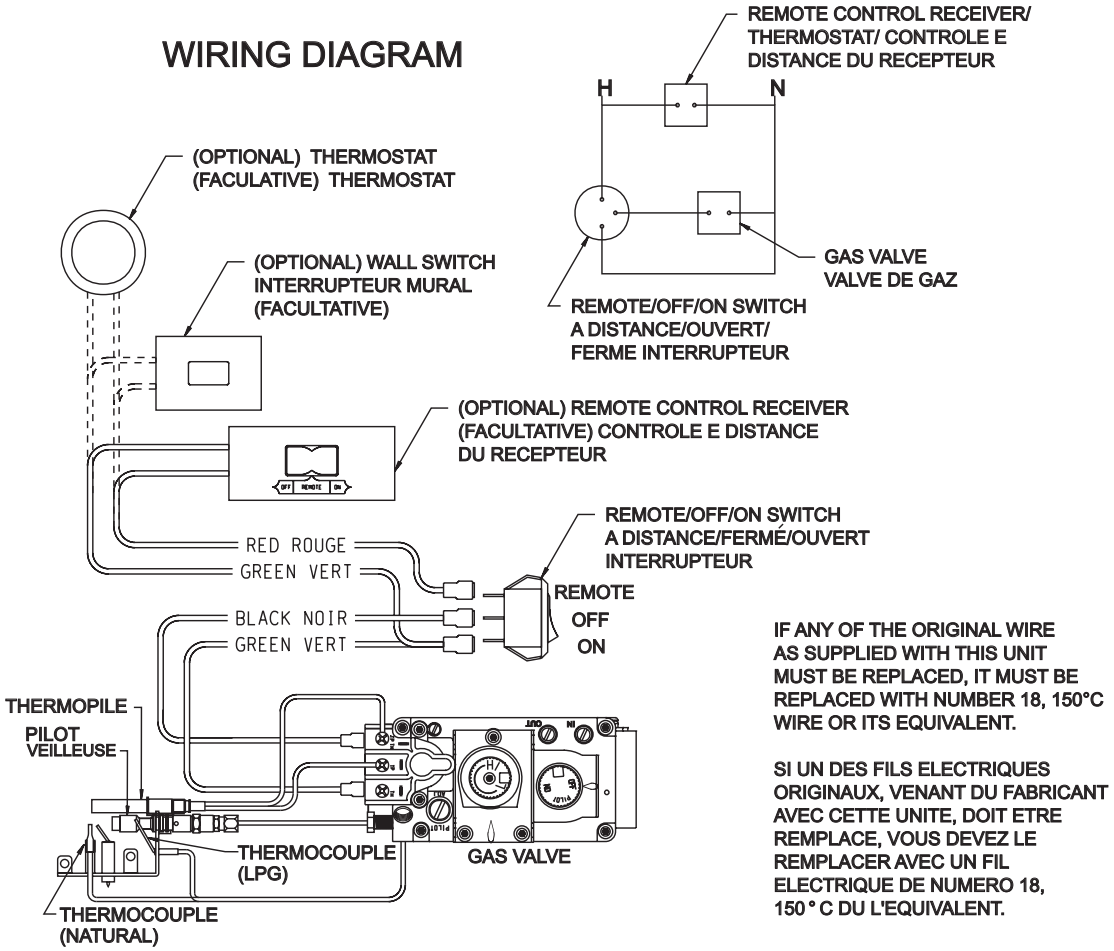


Figure 20

VFDR(18,24,30)LB LIGHTING INSTRUCTIONS

FOR YOUR SAFETY READ BEFORE LIGHTING

WARNING: If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

A. This appliance has a pilot which must be lighted by hand. When lighting the pilot, follow these instructions exactly.

B. BEFORE LIGHTING, smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

WHAT TO DO IF YOU SMELL GAS

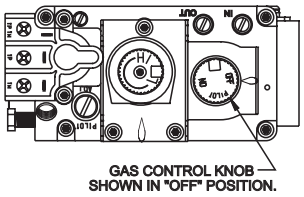
- **Do not try to light any appliance**
- **Do not touch any electrical switch; Do not use any phone in your building**
- **Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.**
- **If you cannot reach your gas supplier, call the fire department.**

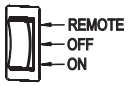
C. Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.

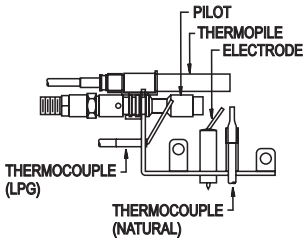
D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

LIGHTING INSTRUCTIONS

1. STOP! Read the safety information above on this page.
2. Set REMOTE/OFF/ON switch to "OFF".
3. Turn off all electric power to the appliance (if applicable).
4. Open bottom louver assembly (if applicable).
5. Push in gas control knob slightly and turn clockwise to "OFF".
   NOTE: Knob cannot be turned from "PILOT" to "OFF" unless knob is pushed in slightly. Do not force.
6. Wait ten (10) minutes to clear out any gas. Then smell for gas, including near the floor. If you smell gas, STOP! Follow "B" in the safety information above. If you do not smell gas, go to the next step.
7. Find pilot - Follow metal tube from gas control. The pilot is located next to the burner, near the right side.







8. Turn gas control knob counterclockwise to "PILOT".
9. Push in control knob all the way and hold in. Repeatedly push the Piezo Ignitor Button until the pilot is lit. Continue to hold the control knob in for about one (1) minute after the pilot is lit. Release knob, and it will pop back up. Pilot should remain lit. If it goes out, repeat steps 5 through 9.
   - If knob does not pop up when released, STOP and IMMEDIATELY call a qualified service technician or gas supplier.
   - If the pilot will not stay lit after several tries, turn the gas control knob to "OFF" and call your service technician or gas supplier.
10. Turn gas control knob counterclockwise to "ON".
11. Close bottom louver assembly (if applicable).
12. Turn on all electric power to the appliance (if applicable).
13. Set REMOTE/OFF/ON switch to desired setting.

TO TURN OFF GAS TO APPLIANCE

1. Set REMOTE/OFF/ON switch to OFF.
2. Turn off all electric power to the appliance if service is to be performed (if applicable).
3. Open bottom louver assembly (if applicable).
4. Push in gas control knob slightly and turn clockwise to "OFF". Do not force.
5. Close bottom louver assembly (if applicable).

VFDR18LB10(N,P) LIGHTING INSTRUCTIONS

FOR YOUR SAFETY READ BEFORE LIGHTING

WARNING: If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

A. This appliance has a pilot which must be lighted by hand. When lighting the pilot, follow these instructions exactly.

B. BEFORE LIGHTING, smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

WHAT TO DO IF YOU SMELL GAS

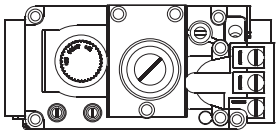
- **Do not try to light any appliance**
- **Do not touch any electrical switch; Do not use any phone in your building**
- **Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.**
- **If you cannot reach your gas supplier, call the fire department.**

C. Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.

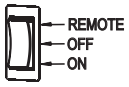
D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

LIGHTING INSTRUCTIONS

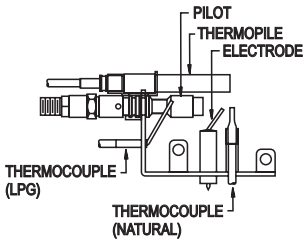
1. STOP! Read the safety information above on this page.
2. Set REMOTE/OFF/ON switch to "OFF".
3. Turn off all electric power to the appliance (if applicable).
4. Open bottom louver assembly (if applicable).



5. Push in gas control knob slightly and turn clockwise to "OFF".
   NOTE: Knob cannot be turned from "PILOT" to "OFF" unless knob is pushed in slightly. Do not force.



6. Wait ten (10) minutes to clear out any gas. Then smell for gas, including near the floor. If you smell gas, STOP! Follow "B" in the safety information above. If you do not smell gas, go to the next step.
7. Find pilot - Follow metal tube from gas control. The pilot is located next to the burner, near the right side.



8. Turn gas control knob counterclockwise to "PILOT".
9. Push in control knob all the way and hold in. Repeatedly push the Piezo Ignitor Button until the pilot is lit. Continue to hold the control knob in for about one (1) minute after the pilot is lit. Release knob, and it will pop back up. Pilot should remain lit. If it goes out, repeat steps 5 through 9.
   - If knob does not pop up when released, STOP and IMMEDIATELY call a qualified service technician or gas supplier.
   - If the pilot will not stay lit after several tries, turn the gas control knob to "OFF" and call your service technician or gas supplier.
10. Turn gas control knob counterclockwise to "ON".
11. Close bottom louver assembly (if applicable).
12. Turn on all electric power to the appliance (if applicable).
13. Set REMOTE/OFF/ON switch to desired setting.

TO TURN OFF GAS TO APPLIANCE

1. Set REMOTE/OFF/ON switch to OFF.
2. Turn off all electric power to the appliance if service is to be performed (if applicable).
3. Open bottom louver assembly (if applicable).
4. Push in gas control knob slightly and turn clockwise to "OFF". Do not force.
5. Close bottom louver assembly (if applicable).

VFDT(18,24,30)LB LIGHTING INSTRUCTIONS

FOR YOUR SAFETY READ BEFORE LIGHTING

WARNING: If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

A. This appliance has a pilot which must be lighted by hand. When lighting the pilot, follow these instructions exactly.

B. BEFORE LIGHTING, smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

WHAT TO DO IF YOU SMELL GAS

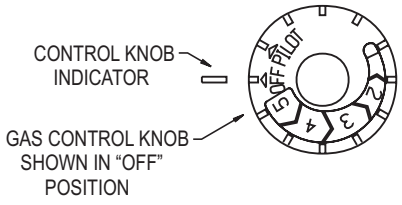
- **Do not try to light any appliance**
- **Do not touch any electrical switch; Do not use any phone in your building**
- **Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.**
- **If you cannot reach your gas supplier, call the fire department.**

C. Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.

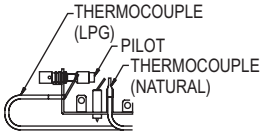
D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

LIGHTING INSTRUCTIONS

1. STOP! Read the safety information above on this page.
2. Set thermostat (gas control knob) to lowest setting.
3. Turn off all electric power to the appliance (if applicable).
4. Push in gas control knob slightly and turn clockwise to "OFF." Do not force.



5. Wait ten (10) minutes to clear out any gas. Then smell for gas, including near the floor. If you smell gas, STOP! Follow "B" in the safety information above. If you do not smell gas, go to the next step.
6. Find pilot - the pilot is located in front of the rear log.



7. Turn manual gas control knob counterclockwise to "PILOT."
8. Push in manual gas control knob all the way and hold in. Repeatedly push the piezo ignitor button until pilot is lit (or use a match to light). Continue to hold the control knob in for about one (1) minute after the pilot is lit. Release knob and it will pop back up. Pilot should remain lit. If it goes out, repeat steps 4 though 8.
   - If knob does not pop up when released, stop and immediately callyou service technician or gas supplier
   - If the pilot will not stay lit after several tries, turn the gas control knob to "OFF" and call your service technician or gas supplier.
9. Attention! Gas control has an INTERLOCK latching device. When the pilot is initially lit and the safety magnet is energized (pilot stays "ON"), the INTERLOCK latching device becomes operative. If the gas control is turned to the "OFF" position or gas flow to the appliance is shut off, the pilot cannot be relighted until the safety magnet is de-energized (approximately 60 seconds). There will be an audible "click" when the safety magnet in the gas control is de-energized. Pilot can now be relighted. Repeat steps 4 through 8.
10. Turn gas control knob counterclockwise to "HIGH."
11. Turn on all electric power to the appliance (if applicable).
12. Set thermostat (gas control knob) to desired setting from "HIGH" to "LOW."

TO TURN OFF GAS TO APPLIANCE

1. Set thermostat (gas control knob) to lowest setting.
2. Turn off all electric power to the appliance if service is to be performed (if applicable).
3. Push in gas control knob slightly and turn clockwise to "OFF." Do not force.

VFDM(18,24,30)LB LIGHTING INSTRUCTIONS

FOR YOUR SAFETY READ BEFORE LIGHTING

WARNING: If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

A. This appliance has a pilot which must be lighted by hand. When lighting the pilot, follow these instructions exactly.

B. BEFORE LIGHTING, smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

WHAT TO DO IF YOU SMELL GAS

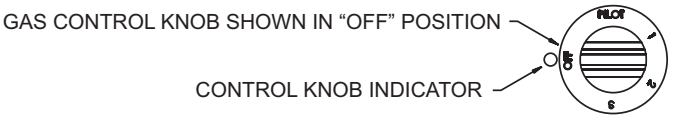
- **Do not try to light any appliance**
- **Do not touch any electrical switch; Do not use any phone in your building**
- **Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.**
- **If you cannot reach your gas supplier, call the fire department.**

C. Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.

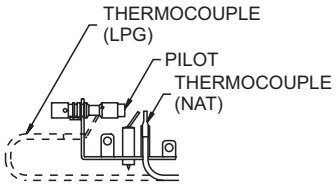
D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

LIGHTING INSTRUCTIONS

1. STOP! Read the safety information above on this page.
2. Push in gas control knob slightly and turn clockwise to "OFF." Do not force.



3. Wait ten (10) minutes to clear out any gas. Then smell for gas, including near the floor. If you smell gas, STOP! Follow "B" in the safety information above. If you do not smell gas, go to the next step.
4. Find pilot - the pilot is located in front of the rear log.
5. Turn manual gas control knob counterclockwise to "PILOT."



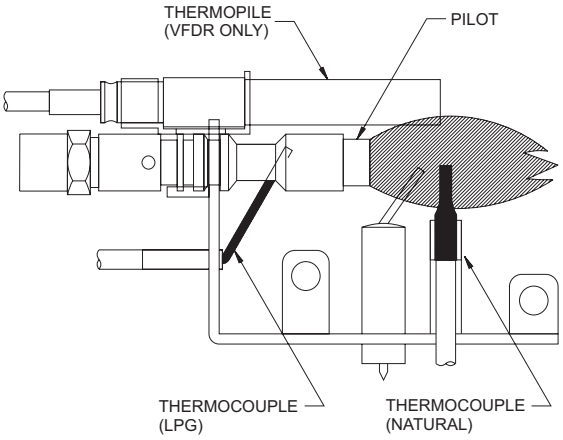
6. Push in manual gas control knob all the way and hold in. Repeatedly push the piezo ignitor button until pilot is lit (or use a match to light). Continue to hold the control knob in for about one (1) minute after the pilot is lit. Release knob and it will pop back up. Pilot should remain lit. If it goes out, repeat steps 2 through 6.
   - If knob does not pop up when released, stop and immediately callyou service technician or gas supplier
   - If the pilot will not stay lit after several tries, turn the gas control knob to "OFF" and call your service technician or gas supplier.
7. Three heat settings can be selected by slightly depressing the manual gas control knob and turning the manual gas control knob counterclockwise to 1, 2 or 3.
8. CAUTION! WHen the manual gas control knob has been turned to desired heat setting, ensure that the manual gas control knob is locked into that heat setting and cannot be turned without being depressed. If the manual gas control knob is in mid-position, between heat settings, incomplete combustion will take place, causing odor and may produce gas leakage or carbon monoxide.

TO TURN OFF GAS TO APPLIANCE

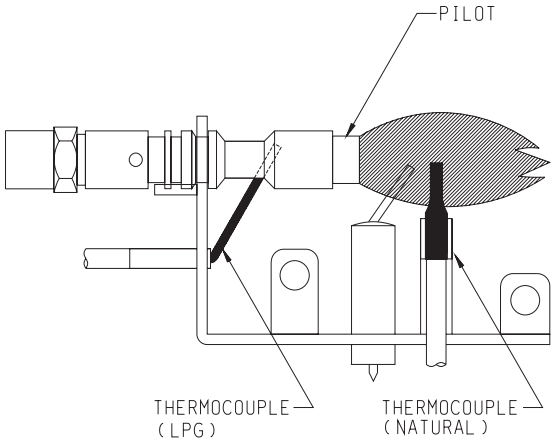
1. Push in gas control knob slightly and turn clockwise to "OFF." Do not force.

PILOT FLAME CHARACTERISTICS

Figures 21 and 22 show a correct pilot flame pattern. The correct flame will be blue and will extend beyond the thermocouple. The flame will surround the thermocouple just below the tip. A slight yellow flame may occur where the pilot flame and main burner flame meet. Figures 23 and 24 show an incorrect pilot flame pattern. The incorrect pilot flame is not touching the thermocouple. This will cause the thermocouple to cool. When the thermocouple cools, the heater will shut down.

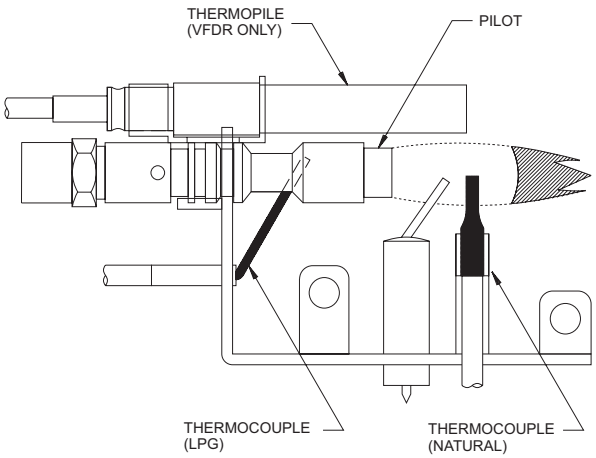


Correct Pilot Flame Pattern for VFDR
Figure 21

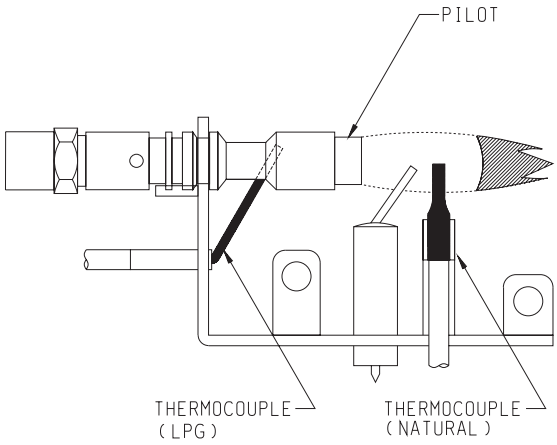


Correct Pilot Flame Pattern for VFDT & VFDM

Figure 22



Incorrect Pilot Flame Pattern for VFDR
Figure 23



Incorrect Flame Pattern for VFDT & VFDM

Figure 24

If pilot flame pattern is incorrect, as shown in Figures 23 and 24

- See Troubleshooting, page 23.

PILOT FLAME CHARACTERISTICS

Cleaning and Maintenance/Pilot
Oxygen Depletion Sensor Pilot (Figures 25 and 26)
When the pilot has a large yellow tip flame, clean the Oxygen Depletion Sensor as follows:

1. Clean the ODS pilot by loosening nut B from the pilot tubing. When this procedure is required, grasp nut A with an open end wrench.
2. Blow air pressure through the holes indicated by the arrows. This will blow out foreign materials such as dust, lint and spider webs. Tighten nut B also by grasping nut A.

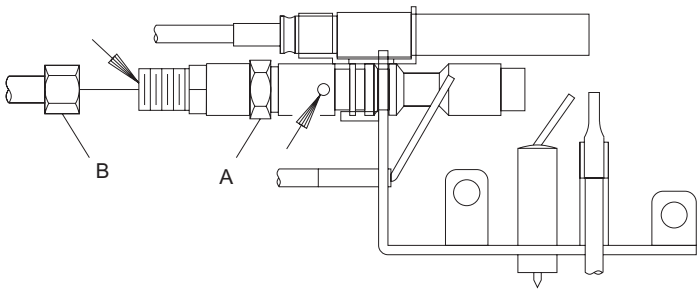


Figure 25 VFDR

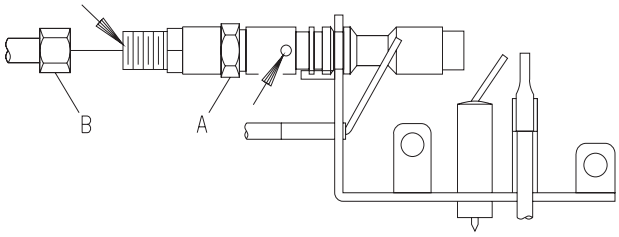


Figure 26 VFDT & VFDM

CLEANING AND SERVICING

Annual inspection and cleaning by your dealer or qualified service technician is recommended to prevent malfunction and/or sooting.

TURN OFF HEATER AND ALLOW TO COOL BEFORE CLEANING.
Remove logs, handling carefully by holding gently at each end. Gloves are recommended to prevent skin irritation from ceramic fibers. If skin becomes irritated, wash gently with soap and water. Refer to manual for correct log placement.

PERIODIC CLEANING – Refer to parts diagram for location of items discussed below.
- Do not use cleaning fluid to clean logs or any part of heater.
- Logs - brush with soft bristle brush or vacuum with brush attachment.
- Remove loose particles and dust from the burner, controls and grate.
- Inspect and clean burner air intake hole. Remove lint or particles with brush. Failure to keep air intake hole clean will result in sooting and poor combustion.

ANNUAL CLEANING/INSPECTION – Refer to parts diagram for location of items discussed below.
- Inspect and clean burner air intake hole. Remove lint or particles with vacuum or brush. Failure to keep air intake hole clean will result in sooting and poor combustion.
- Inspect and clean all burner ports.
- Inspect ODS pilot for operation and accumulation of lint at air intake holes.
- Verify flame pattern and log placement for proper operation.
- Verify smooth and responsive ignition of main burner.

TROUBLESHOOTING
SYMPTOMS, POSSIBLE CAUSES AND CORRECTIONS

1. **When ignitor button is pressed, there is no spark at ODS/ pilot.**
   a. Ignitor electrode positioned wrong - Replace pilot.
   b. Ignitor electrode is broken - Replace pilot.
   c. Ignitor electrode not connected to ignitor cable - Reconnect ignitor cable.
   d. Ignitor cable pinched or wet. Keep ignitor cable dry - Free ignitor cable if pinched by any metal or tubing.
   e. Broken ignitor cable - Replace ignitor cable.
   f. Bad piezo ignitor - Replace piezo ignitor.
2. **Appliance produces unwanted odors.**
   a. Appliance burning vapors from paint, hair spray, glues, etc. - Ventilate room. Stop using odor causing products while heater is running.
   b. Gas leak - Locate and correct all leaks.
3. **Appliance shuts off during use. (Pilot and main burner are off.)**
   a. Not enough fresh air is available for ODS/pilot to operate - Open window and/or door for ventilation.
   b. Low line pressure - Contact local gas company.
   c. ODS/pilot is partially clogged - Clean ODS/pilot.
   d. Defective thermocouple - Replace pilot.
4. **Appliance shuts off during use. (Pilot stays on.)**
   a. Low line pressure - Check line pressure to the valve.
   b. Defective thermopile - Check pilot flame, check wire connections, output should be a minimum of 325 millivolts across. TH/TP and TP terminals with REMOTE/OFF/ON switch off.
5. **Gas odor even when control knob is in OFF position.**
   a. Gas leak - Locate and correct all leaks.
   b. Control valve defective - Replace control valve.
6. **When ignitor button is pressed, there is spark at ODS/pilot, but no ignition.**
   a. Gas supply turned off or manual shutoff valve closed - Turn on gas supply or open manual shutoff valve.
   b. Control knob not in PILOT position - Turn control knob to PILOT position.
   c. Control knob not pressed in while in PILOT position - Press in control knob while in PILOT position.
   d. Air in gas lines when installed - Continue holding down control knob. Repeat igniting operation until air is removed.
   e. ODS/pilot is clogged - Replace ODS/pilot assembly or get it serviced.
   f. Gas regulator setting is not correct - Replace gas regulator.
7. **ODS/pilot lights but flame goes out when control knob is released.**
   a. Control knob not fully pressed in - Press in control knob fully.
   b. Control knob not pressed in long enough - After ODS/pilot lights, keep control knob pressed in 30 seconds.
   c. Manual Shutoff valve not fully open - Fully open manual shutoff valve.
   d. Thermocouple connection loose at control valve - Hand tighten until snug, then tighten 1/4 turn more.
   e. Pilot flame not touching thermocouple, which allows thermocouple to cool, causing pilot flame to go out. This problem could be caused by either low gas pressure or dirty or partially clogged ODS/pilot - Contact local gas company.
   f. Thermocouple damaged - Replace thermocouple.
   g. Control valve damaged - Replace control valve.
8. **Burner does not light after ODS/pilot is lit.**
   a. Burner orifice clogged - Clean burner or replace main burner orifice.
   b. Burner orifice diameter is too small - Replace burner orifice.
   c. Inlet gas pressure is too low - Contact qualified service person.
9. **If burning at main burner orifice occurs (a loud, roaring blow torch noise).**
   a. You must turn off burner assembly and contact a qualified service person.
   b. Manifold pressure is too low - Contact local gas company.
   c. Burner orifice clogged - Clean burner or replace burner orifice.
10. **Logs appear to smoke after initial operation.**
    a. Vapors from paint or curing process of logs - Problem will stop after a few hours of operation. Run the heater with the damper open if you have one, or open a window for the first few hours.
    Log heater is intended to be smokeless. Turn OFF heater and call qualified service person.
11. **Heater produces a whistling noise when main burner is lit.**
    a. Turning control knob to HIGH position when main burner is cold - Turn control knob to LOW position and let warm up for a minute (does not apply to VFDR18LB10 models)
    b. Air in gas line - Operate burner until air is removed from line. Have gas line checked by local gas company.
    c. Dirty or partially clogged burner orifice - Clean burner or replace burner orifice.
12. **No gas to pilot (VFDM and VFDT models only).**
    a. LP-regulator shut down due to inlet pressure too high - Verify LP tank regulator is installed and set at 11" to 13" w.c. Replace regulator on heater.

If the gas quality is bad, your pilot may not stay lit, the burners may produce soot and the heater may backfire when lit. If the gas quality or pressure is low, contact your local gas supplier immediately.

HOW TO ORDER REPAIR PARTS

Parts can be ordered **only** through your **service person or dealer.** For best results, the **service person or dealer** should order parts through the distributor. Parts can be shipped directly to the **service person/dealer**.

All parts listed in the Parts List have a Part Number. When ordering parts, first obtain the Model Number from the name plate on your equipment. Then determine the Part Number (**not** the Index Number) and the Description of each part from the following appropriate illustration and list. Be sure to give all this information . . .

Appliance Number _____ Part Description _____

Appliance Serial Number _____ Part Number _____

Type of Gas (Propane or Natural) _____

Do not order bolts, screws, washers or nuts. They are standard hardware items and can be purchased at any local hardware store.

Shipments contingent upon strikes, fires and all causes beyond our control.

Empire Comfort Systems, Inc. Nine Eighteen Freeburg Ave. Belleville, Illinois 62222-0529

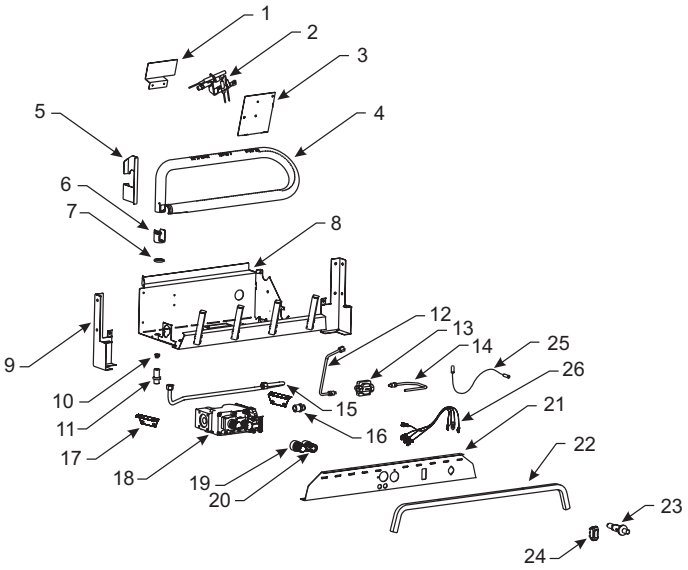
VFDR SERIES PARTS LIST

Attention: When ordering parts, it is very important that part number and description of part coincide.

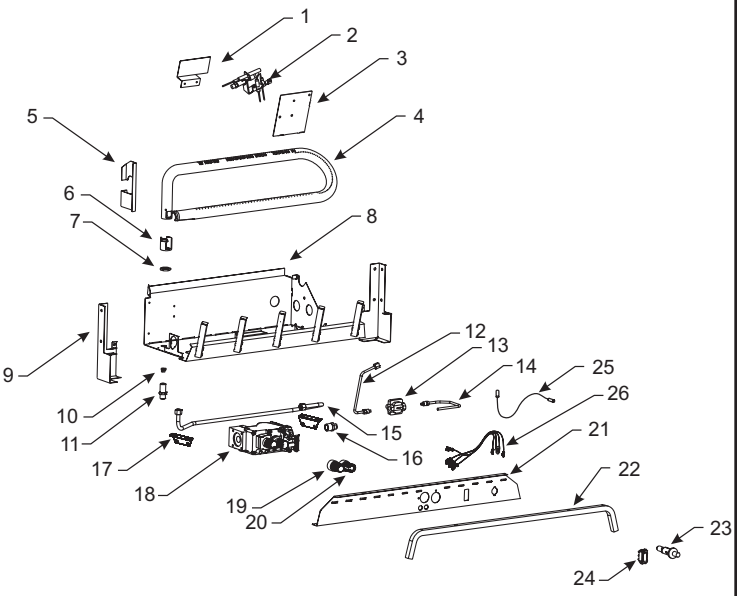
INDEX NO.	PART NUMBERS VFDR18LB	VFDR24LB	VFDR30LB	DESCRIPTION
1	21588	21588	23157	PILOT SHIELD (NAT ONLY)
2	R3623	R3623	R3623	PILOT ASSEMBLY (LPG)
2	R3624	R3624	R3624	PILOT ASSEMBLY (NAT)
3	21590	21590	21590	PILOT BRACKET (LPG)
3	23106	23106	23106	PILOT BRACKET (NAT)
4	R9022	R9023	R9024	BURNER, TUBE
5	21592	21592	21260	BRACKET, LOG LOCATOR
6	R7624	R7624	R7624	AIR SHUTTER
7	R7572	R7572	R7572	JAMB NUT
8	21669	21670	21671	BURNER BASE SUB-ASSEMBLY
9	21581	21581	21581	LEG, REAR (2 REQUIRED)
10	P285	P244	P296	ORIFICE (NAT)
10	P258	P210	P297	ORIFICE (LPG)
11	P212	P212	P212	ORIFICE HOLDER
12	21561	21561	21561	TUBING ASSEMBLY (VALVE TO PILOT - LPG)
12	21559	21559	21559	TUBING ASSEMBLY (REGULATOR TO PILOT - NAT)
13	R7063	R7063	R7063	REGULATOR, NAT PILOT
14	21560	21560	21560	TUBING ASSEMBLY (VALVE TO REGULATOR - NAT ONLY)
15	21562	21563	21564	TUBING ASSEMBLY
16	R2423	R2423	R2423	CONNECTOR, MALE
17	23974	23974	23974	VALVE BRACKET (2 REQUIRED)
18	R3626	R3626	R3626	VALVE (NAT)
18	R3625	R3625	R3625	VALVE (LPG)
19	R9028	R9028	R9028	KNOB, EXTENSION ON/OFF
20	R9027	R9027	R9027	KNOB, EXTENSION HI/LO
21	21585	21586	21587	COVER PLATE, FRONT
22	21578	21579	21580	LEG, FRONT
23	R2313	R2313	R2313	IGNITOR, PIEZO
24	R3436	R3436	R3436	SWITCH, REMOTE/OFF/ON
25	R5668	R5668	R5668	IGNITER WIRE
26	R3435	R3435	R3435	WIRE ASSEMBLY (REMOTE/OFF/ON)
27	R7587	R7556	R7598	REAR LOG
28	R7586	R7555	R7597	MIDDLE LOG
29	R7585	R7553	R7553	FRONT LOG, LEFT
30	R7554	R7554	R7554	FRONT LOG, RIGHT
31	-	-	R7601	FRONT LOG, MIDDLE
32	R7588	R7557	R7599	FRONT TWIG
33	-	-	R7600	REAR TWIG
N/S	15998	15998	-	ROCKWOOL (EMBER MATERIAL) (2REQUIRED)
N/S	-	-	15999	ROCKWOOL (EMBER MATERIAL)

USE ONLY MANUFACTURER'S REPLACEMENT PARTS. USE OF ANY OTHER PARTS COULD CAUSE INJURY OR DEATH.

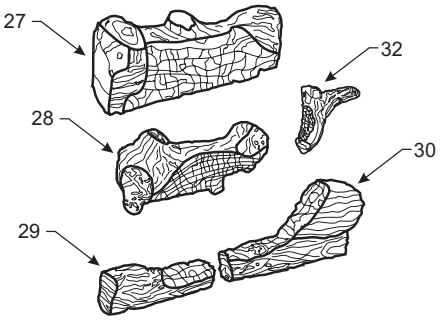
VFDR SERIES PARTS VIEW



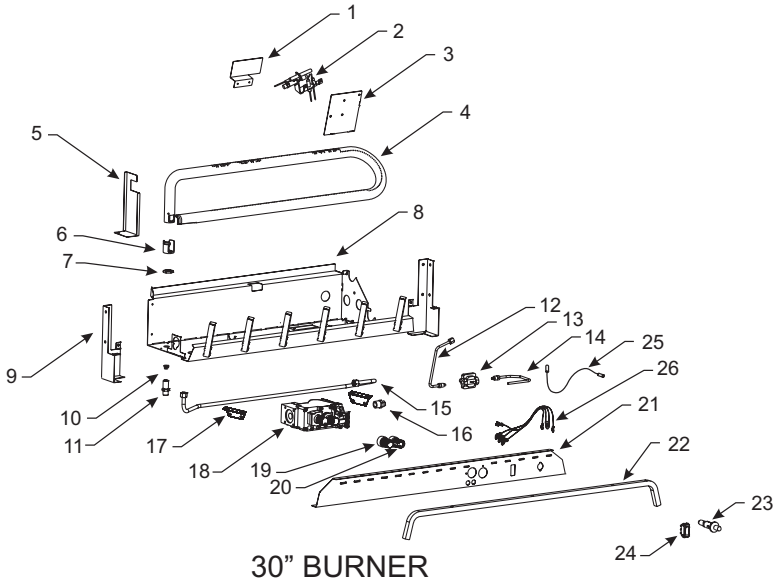
18” BURNER



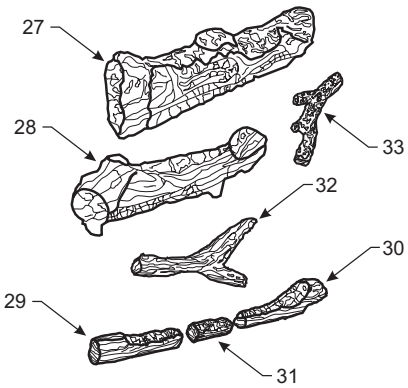
24” BURNER



5 PIECE LOG SET



30” BURNER



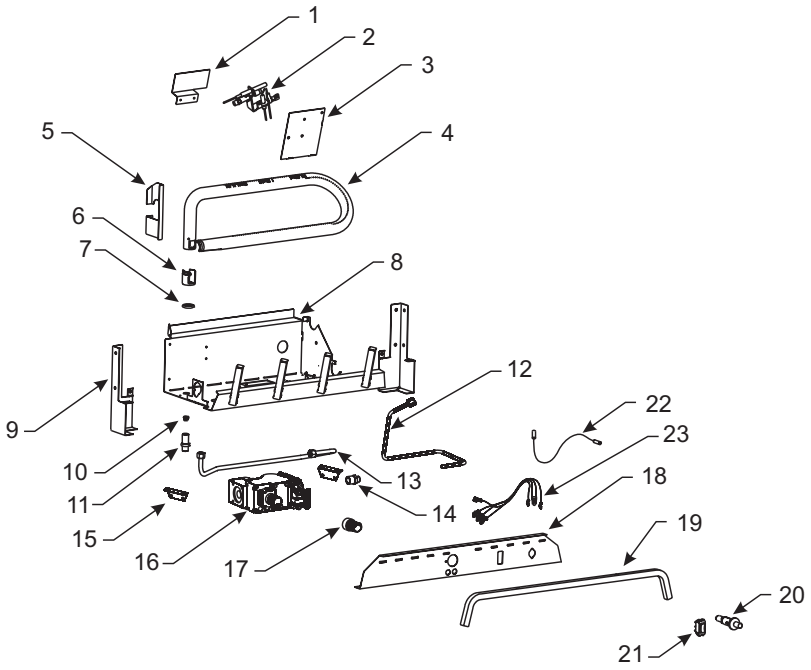
7 PIECE LOG SET

VFDR18LB10 PARTS LIST

Attention: When ordering parts, it is very important that part number and description of part coincide.

INDEX NO.	PART NO.	DESCRIPTION
1	21588	PILOT SHIELD (NAT ONLY)
2	R3623	PILOT ASSEMBLY (LPG)
2	R3624	PILOT ASSEMBLY (NAT)
3	21590	PILOT BRACKET (LPG)
3	23106	PILOT BRACKET (NAT)
4	R9276	BURNER, TUBE
5	21592	BRACKET, LOG LOCATOR
6	R7624	AIR SHUTTER
7	R7572	JAMB NUT
8	21669	BURNER BASE SUB-ASSEMBLY
9	21581	LEG, REAR (2 REQUIRED)
10	P214	ORIFICE (NAT)
10	P193	ORIFICE (LPG)
11	P212	ORIFICE HOLDER
12	21561	TUBING ASSEMBLY (VALVE TO PILOT - LPG)
13	21562	TUBING ASSEMBLY
14	R2423	CONNECTOR, MALE
15	23974	VALVE BRACKET (2 REQUIRED)
16	R9368	VALVE (NAT)
16	R9369	VALVE (LPG)
17	R9028	KNOB, EXTENSION ON/OFF
18	23973	COVER PLATE, FRONT
19	21578	LEG, FRONT
20	R2313	IGNITOR, PIEZO
21	R3436	SWITCH, REMOTE/OFF/ON
22	R5668	IGNITER WIRE
23	R3435	WIRE ASSEMBLY (REMOTE/OFF/ON)
24	R7587	REAR LOG
25	R7586	MIDDLE LOG
26	R7585	FRONT LOG, LEFT
27	R7554	FRONT LOG, RIGHT
28	R7588	FRONT TWIG (OPTIONAL)
N/S	15998	ROCKWOOL (EMBER MATERIAL) (2REQUIRED)

VFDR18LB 10 PARTS VIEW



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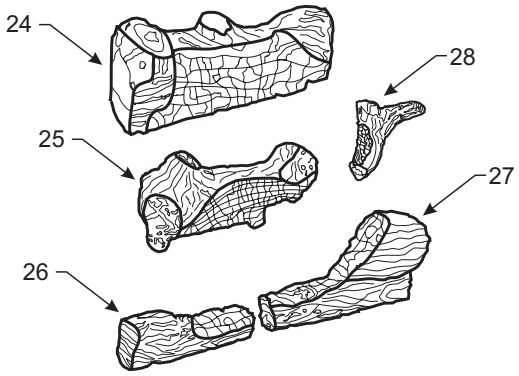


5 PIECE LOG SET

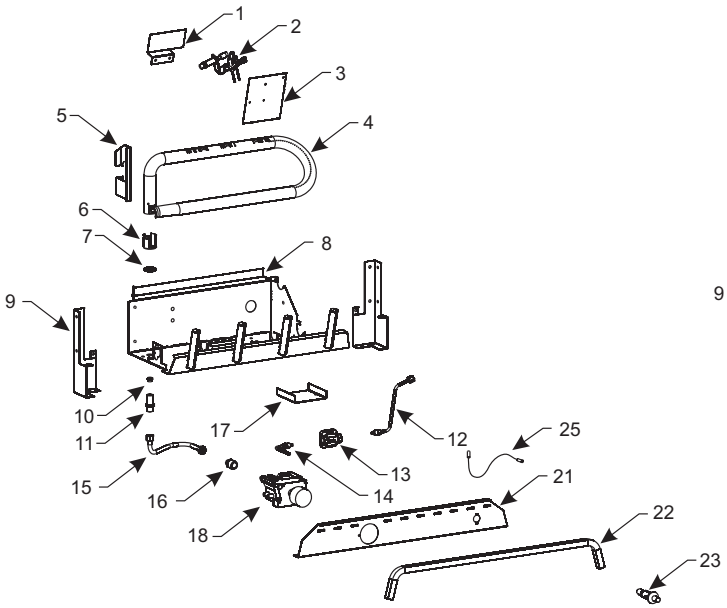
VFDT SERIES PARTS LIST

Attention: When ordering parts, it is very important that part number and description of part coincide.

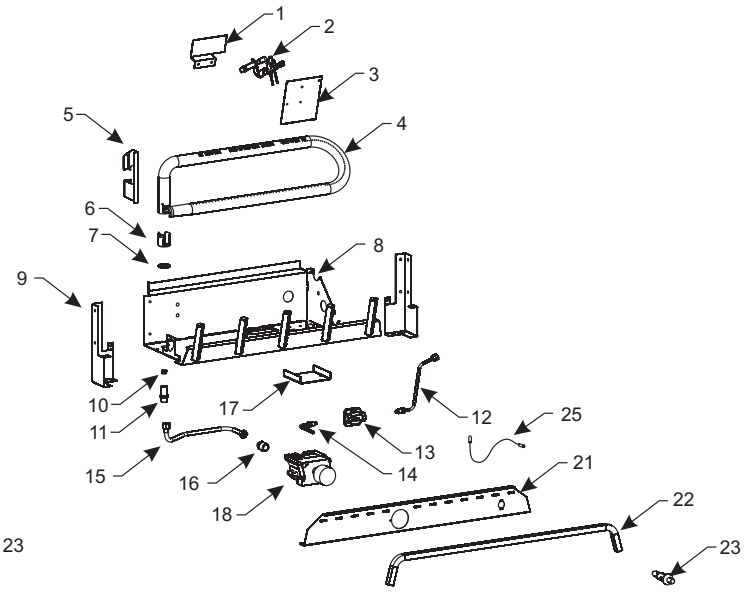
INDEX NO.	PARTS NUMBERS VFDT18LB	VFDT24LB	VFDT30LB	DESCRIPTION
1	21588	21588	23157	PILOT SHIELD (NAT ONLY)
2	R5170	R5170	R5170	PILOT ASSEMBLY (LPG)
2	R5171	R5171	R5171	PILOT ASSEMBLY (NAT)
3	21590	21590	21590	PILOT BRACKET (LPG)
3	23106	23106	23106	PILOT BRACKET (NAT)
4	R9022	R9023	R9024	BURNER, TUBE
5	21592	21592	21260	BRACKET, LOG LOCATOR
6	R7624	R7624	R7624	AIR SHUTTER
7	R7572	R7572	R7572	JAMB NUT
8	21669	21670	21671	BURNER BASE SUB-ASSEMBLY
9	21581	21581	21581	LEG, REAR (2 REQUIRED)
10	P181	P257	P184	ORIFICE (NAT)
10	P258	P298	P300	ORIFICE (LPG)
11	P212	P212	P212	ORIFICE HOLDER
12	22633	22633	22633	TUBING ASSEMBLY (VALVE TO PILOT - LPG)
12	R2479	R2479	R2479	TUBING ASSEMBLY (REGULATOR TO PILOT - NAT)
13	R2480	R2480	R2480	REGULATOR, NAT PILOT
14	P239	P239	P239	TUBING ASSEMBLY (VALVE TO REGULATOR - NAT ONLY)
15	22639	22640	22641	TUBING ASSEMBLY
16	R2423	R2423	R2423	CONNECTOR, MALE
17	22632	22632	22632	VALVE BRACKET
18	23334	23336	23338	VALVE (NAT)
18	23335	23337	23339	VALVE (LPG)
21	22636	22637	22638	COVER PLATE, FRONT
22	21578	21579	21580	LEG, FRONT
23	R2313	R2313	R2313	IGNITOR, PIEZO
25	R5668	R5668	R5668	IGNITER WIRE
27	R7587	R7556	R7598	REAR LOG
28	R7586	R7555	R7597	MIDDLE LOG
29	R7585	R7553	R7553	FRONT LOG, LEFT
30	R7554	R7554	R7554	FRONT LOG, RIGHT
31	--	--	R7601	FRONT LOG, MIDDLE
32	R7588	R7557	R7599	FRONT TWIG
33	--	--	R7600	REAR TWIG
N/S	15998	15998	--	ROCKWOOL (EMBER MATERIAL) (2REQUIRED)
N/S	--	--	15999	ROCKWOOL (EMBER MATERIAL)

USE ONLY MANUFACTURER'S REPLACEMENT PARTS. USE OF ANY OTHER PARTS COULD CAUSE INJURY OR DEATH.

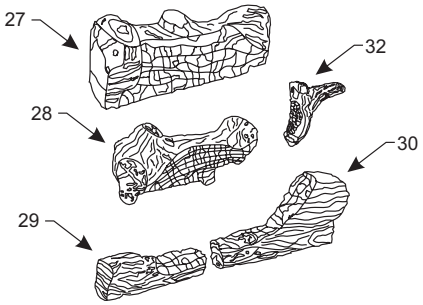
VFDT SERIES PARTS VIEW



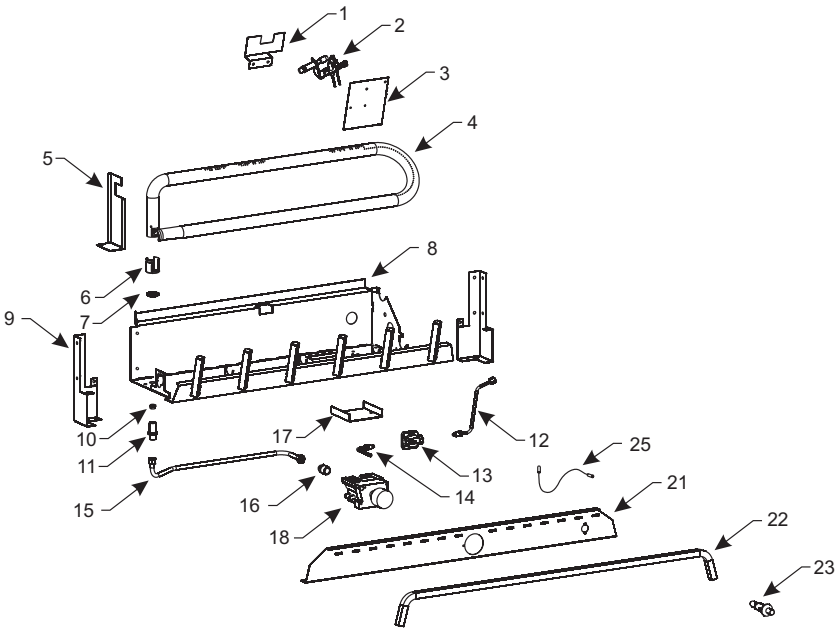
18” BURNER



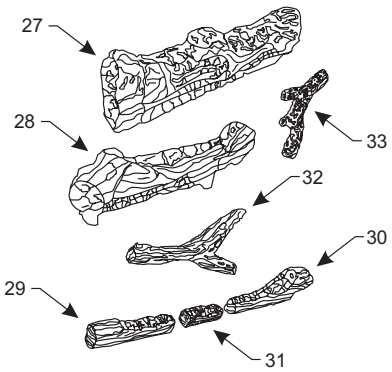
24” BURNER



5 PIECE LOG SET



30” BURNER



7 PIECE LOG SET

VFDM SERIES PARTS LIST

Attention: When ordering parts, it is very important that part number and description of part coincide.

INDEX NO.	PART NUMBERS			DESCRIPTION
	VFDM18LB	VFDM24LB	VFDM30LB	
1	21588	21588	23157	PILOT SHIELD (NAT ONLY)
2	R5170	R5170	R5170	PILOT ASSEMBLY (LPG)
2	R5171	R5171	R5171	PILOT ASSEMBLY (NAT)
3	21590	21590	21590	PILOT BRACKET (LPG)
3	23106	23106	23106	PILOT BRACKET (NAT)
4	R9022	R9023	R9024	BURNER, TUBE
5	21592	21592	21260	BRACKET, LOG LOCATOR
6	R7624	R7624	R7624	AIR SHUTTER
7	R7572	R7572	R7572	JAMB NUT
8	21669	21670	21671	BURNER BASE SUB-ASSEMBLY
9	21581	21581	21581	LEG, REAR (2 REQUIRED)
10	P181	P243	P296	ORIFICE (NAT)
10	P258	P298	P299	ORIFICE (LPG)
11	P212	P212	P212	ORIFICE HOLDER
12	23109	23109	23109	TUBING ASSEMBLY (VALVE TO PILOT - NAT)
12	23110	23110	23110	TUBING ASSEMBLY (REGULATOR TO PILOT - LPG)
13	R2479	R2479	R2479	REGULATOR, NAT
13	R2480	R2480	R2480	REGULATOR, LPG
14	23107	23107	23107	TUBING ASSEMBLY (VALVE TO REGULATOR)
15	23111	23112	23113	TUBING ASSEMBLY
17	23108	23108	23108	VALVE BRACKET
18	R9241	R9270	R9244	VALVE (NAT)
18	R9242	R9243	R9245	VALVE (LPG)
21	22636	22637	22638	COVER PLATE, FRONT
22	21578	21579	21580	LEG, FRONT
23	R2313	R2313	R2313	IGNITOR, PIEZO
25	R5668	R5668	R5668	IGNITER WIRE
27	R7587	R7556	R7598	REAR LOG
28	R7586	R7555	R7597	MIDDLE LOG
29	R7585	R7553	R7553	FRONT LOG, LEFT
30	R7554	R7554	R7554	FRONT LOG, RIGHT
31	--	--	R7601	FRONT LOG, MIDDLE
32	R7588	R7557	R7599	FRONT TWIG
33	--	--	R7600	REAR TWIG
34	R1652	R1652	R1652	LOCK NUT
35	R9277	R9277	R9277	KNOB, MANUAL VALVE
N/S	15998	15998	--	ROCKWOOL (EMBER MATERIAL) (2REQUIRED)
N/S	--	--	15999	ROCKWOOL (EMBER MATERIAL)

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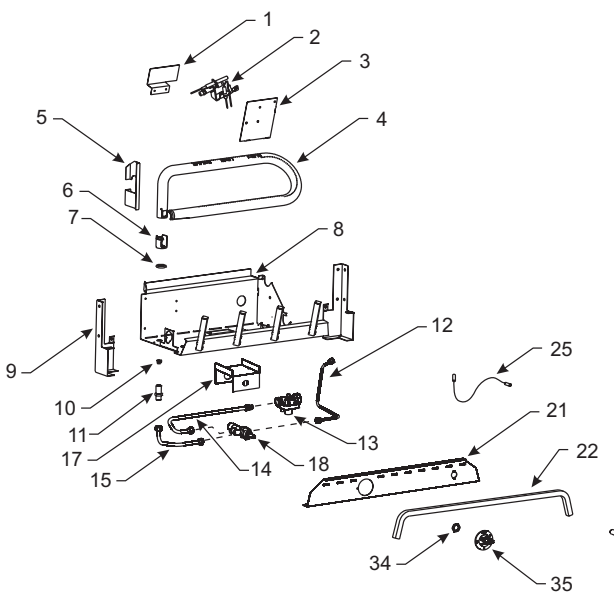
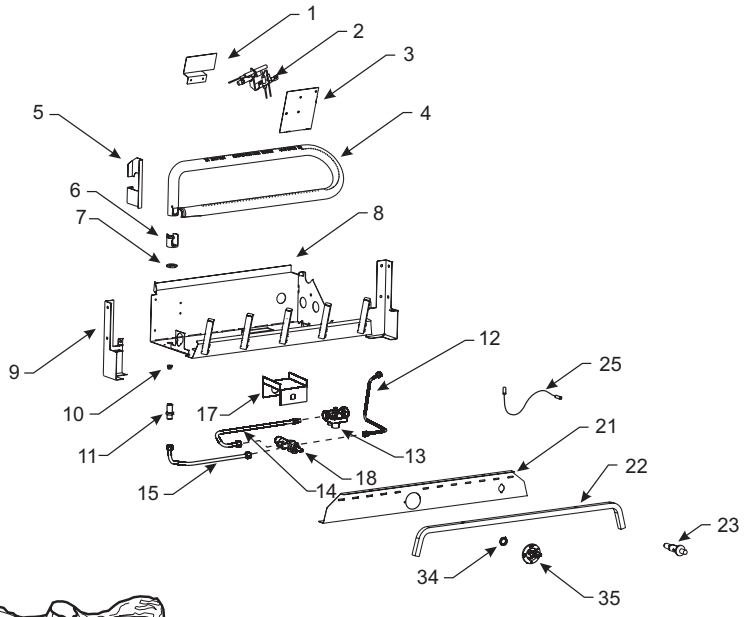
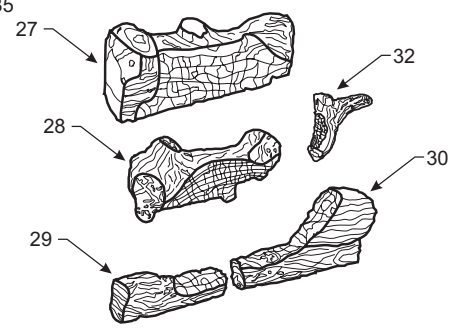
VFDM SERIES PARTS VIEW



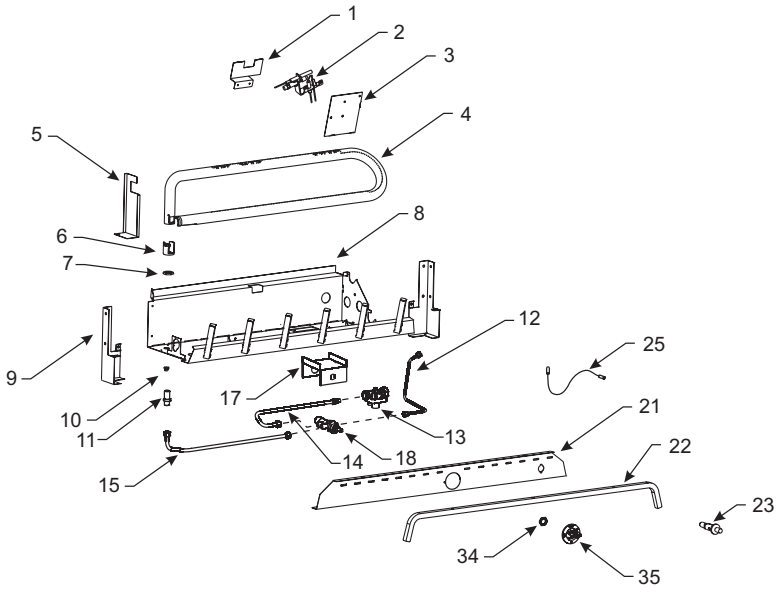
18” BURNER



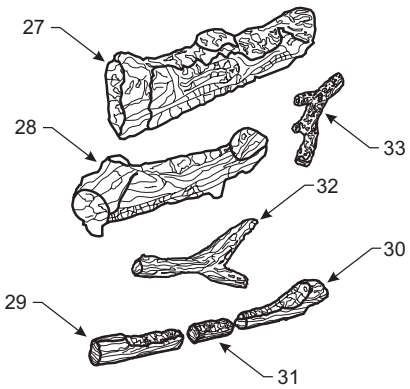
24” BURNER



5 PIECE LOG SET



30” BURNER



7 PIECE LOG SET

SERVICE NOTES

Empire Comfort Systems, Inc.
918 Freeburg Ave. Belleville, IL 62220
PH: 618-233-7420 or 800-851-3153
FAX: 618-233-7097 or 800-443-8648
info@empirecomfort.com

www.empirecomfort.com